STIC Search Report
EIC 2100

STIC Database Tracking Number: 203175

TO:	From:
Fred Ehichoya **Location: RND 3B31** **Art Unit: 2162** **Friday, September 29, 2006** **Case Serial Number: 10/808177**	**Byron T. Mims** **Location: EIC 2100** **RND-4B19** **Phone: 272-3528** **byron.mims@uspto.gov**

Search Notes

Fred

Enclosed are art findings that may be of interest. For the sake of expedited turnaround time, I have forgone tagging as well as highlighting all of the enclosed retrieved items. Let me know if there is anything in particular that you would like for me to pursue further.

Byron

RUSH 203175

STIC EIC 2100
Search Request Form

Today's Date: 9/28/06

What date would you like to use to limit the search?

Priority Date: 1/16/2003 Other: ~~No~~

Name FRED Ehichioya

AU 2162 Examiner # 79719

Room # 3B31 Phone 2-4034

Serial # ~~10/854~~ 10/808,177

Format for Search Results (Circle One):

PAPER DISK EMAIL

Where have you searched so far?

USP DWPI EPO JPO ACM IBM TDB

IEEE INSPEC SPI Other _____

Is this a "Fast & Focused" Search Request? (Circle One) YES NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at http://ptoweb/patents/stic/stic-tc2100.htm.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

Is this request for a BOARD of APPEALS case? (Circle One) YES NO

- storing a first portion of a first database table and a first portion of a second database table on a first node, and storing a second portion of a first database table and a second portion of a second database table on a second node.
- generating a first join table from first portion of said first database table, and generating a second join table from a ~~second~~ said second portion of first database table.
- comparing said first portion of said second database table with said first join table, and comparing said second portion of said second database table with said second join table to generate a first intermediate results file.

TIM VO
SPE 2168

STIC Searcher B Mims Phone 2-3524

Date picked up 9/28 Date Completed _____

```
Set     Items   Description
S1     246945   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE? OR
          REPOSITOR? OR WAREHOUSE?) OR DB OR RDB OR OODB OR ODBC OR DB-
          MS OR RDBMS
S2      48202   S1(7N)(TABLE? OR FILE? ? OR COLLECTION? OR MATRI??? OR ARR-
          AY?)
S3       5306   S2(3N)(FRACTION? OR PART??? OR PORTION? OR SUBSET? OR FRAG-
          MENT? OR PIECE? OR SEGMENT? OR DETAIL?)
S4      11458   S2:S3(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR O-
          RIGINAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S5      11814   S2:S3(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHE-
          R? OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S6       3633   S2(5N)(JOIN??? OR COMBIN? OR ADD??? ? OR MERG??? ?)
S7       1516   S6(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR ORIG-
          INAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S8       1506   S6(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHER? -
          OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S9    1607295   (OUTPUT? OR OUTPUT?()DIAGNOSTIC? OR READOUT? OR READ()OUT?
          ? OR RESULT?)
S10    500910   S9(7N)(GENERAT? OR PRODUC? OR CREATE? ? OR CREATING? OR CR-
          EATION? OR PROPOGAT? OR DEVELOP? OR YIELD? OR CONSTRUCT??? ? -
          OR MAP??? ? OR MAPPING? ?)
S11    176558   S9(7N)(ORIGINAT? OR MAKE? OR MAKING? OR INITIAT? OR INTROD-
          UC? OR REPRODUCE? OR REPRODUCING? OR BUILD? OR BUILT? OR MANU-
          FACT?)
S12   1581823   DETERMIN? OR COMPAR? OR DISCERN? OR ASCERTAIN? OR ANALY? OR
          IDENT? OR CHECK? OR VERIF? OR JUDG??? ?
S13   2294686   MONITOR? OR EXAMIN? OR DETECT? OR UNCOVER? OR REVEAL? OR A-
          SSESS? OR EVALUAT? OR INSPECT? OR SCAN???
S14       905   (S12:S13(50N)S4(25N)S7)(100N)(S12:S13(50N)S5(25N)S8)
S15       220   S14(100N)S10:S11
S16       217   S15 AND (S12:S13(25N)S4(15N)S7)(20N)(S12:S13(25N)S5(15N)S8)
S17         5   S16(100N)DATABASE?(100N)JOIN???(7N)(TABLE? ? OR FILE? ?)
S18       212   S16 NOT S17
S19        79   S18 AND DATABASE? ?
S20         0   S19 AND JOIN???(10N)(TABLE? ? OR FILE? ?)
S21         2   S19(100N)JOIN???(10N)(TABLE? ? OR FILE? ?)
S22     97432   S1/TI,AB,CM
S23       176   S22(100N)JOIN???(10N)(TABLE? ? OR FILE? ?)
S24       140   S23(100N)DATABASE? ?
S25         4   S24(100N)(S12:S13(10N)S4(10N)S7)
S26       901   (S14 OR S22)(100N)(S12:S13(10N)S5(10N)S8)
S27       870   S26(100N)(S12:S13(7N)S4(7N)S7)
S28       870   S27(100N)(S12:S13(7N)S5(7N)S8)
S29        22   S28 AND DATABASE? ?(100N)JOIN???(10N)(TABLE? ? OR FILE? ?)
S30        10   AU=(JARDIN C? OR JARDIN, C?)
S31         5   CARY(2N)JARDIN
S32         0   S30:S31 AND DATABASE? ?(100N)JOIN???(10N)(TABLE? ? OR FILE?
          ?)
S33         0   S30:S31 AND JOIN???(10N)(TABLE? ? OR FILE? ?)
S34         0   S30:S31(100N)DATABASE? ?(100N)JOIN???(10N)(TABLE? ? OR FIL-
          E? ?)
S35        10   S30:S31
File 348:EUROPEAN PATENTS 1978-2006/ 200638
        (c) 2006 European Patent Office
File 349:PCT FULLTEXT 1979-2006/UB=20060921UT=20060914
        (c) 2006 WIPO/Thomson
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17/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00810682
System and method for accessing cobol data with a cobol compatible structured query language
System und Verfahren zum Zugriffen auf Cobol Daten mit einer Cobol compatibelen SQL
Systeme et procede pour acceder a des donnees Cobal avec une SQL compatible Cobol
PATENT ASSIGNEE:
Unimark Holdings Limited, (2003290), 141 Des Voeux Road Central, Rooms 2102-3, International Buildings, Hong Kong, (HK), (applicant designated states: DE;FR;GB)
INVENTOR:
Song, Zhi Yong, Unit 906, 9-F Cornell Centre, 50 Wing Tai Road, Chaywan, Hong Kong, (HK)
LEGAL REPRESENTATIVE:
Lawrence, John (60371), Barker, Brettell & Duncan, 138, Hagley Road, Edgbaston, Birmingham B16 9PW, (GB)
PATENT (CC, No, Kind, Date): EP 753819 A1 970115 (Basic)
APPLICATION (CC, No, Date): EP 95304837 950711;
PRIORITY (CC, No, Date): EP 95304837 950711
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS (V7): G06F-017/30;

ABSTRACT EP 753819 A1
A system (10) and method enabling use of a COBOL compatible structured query language (CCSQL) to manipulate data stored in a COBOL data file (90), which is in a non-first normal, hierarchical format. Initially, a dictionary generator subsystem (68) creates a corresponding dictionary (74) for each COBOL data file (90). In the dictionary (74), the NF2) hierarchical logical relationship between the items and attributes (hierarchical nature) of each item of a COBOL data file are defined. Thereafter, whenever a new COBOL data file is produced, a corresponding dictionary is generated. When a user enters a request in the CCSQL format to query a COBOL data file, the request is parsed. The definitions in the dictionary are used by the CCSQL kernel (78) to manipulate the data in response to the user's query. A command interpreter (64) processes the request to determine the appropriate data manipulation to apply and initiates a CCSQL kernel request that carries out the intended action, with reference to the corresponding dictionary (74). For example, the request may require that certain items from a COBOL data file be extracted to produce a report (82). Because the hierarchical logical relationships between the items in the COBOL data are defined in the corresponding dictionary, a CCSQL report generator subsystem can produce the report using data extracted from the COBOL data file in accordance with criteria provided by the user, but without converting the data in the COBOL data files to a 1NF. COBOL programs with embedded CCSQL commands are preprocessed to convert the CCSQL commands to a COBOL compatible structured language that uses the dictionaries to access data referenced in the COBOL data files.
ABSTRACT WORD COUNT: 276

LEGAL STATUS (Type, Pub Date, Kind, Text):
Examination: 020626 A1 Date of dispatch of the first examination report: 20020508
Application: 970115 A1 Published application (A1with Search Report ;A2without Search Report)
Withdrawal: 030521 A1 Date application deemed withdrawn: 20021119

Examination: 970917 A1 Date of filing of request for examination: 970712

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB97	1509
SPEC A	(English)	EPAB97	8236
Total word count - document A			9745
Total word count - document B			0
Total word count - documents A + B			9745

CLAIMS 1. A method for manipulating data stored in COBOL **data** files that are normally accessed using a COBOL procedural language, so as to allow direct...

...appropriate one of a plurality of predefined data manipulation operations that act on the COBOL **data** **file** ; and

(iv) report means for producing a data output that is responsive to the request...

...the user, said data output comprising a report that includes selected items from the COBOL **data** **file** ;

(b) a keyboard on which the user enters the request, said keyboard being electrically coupled...

...for defining the NF2) hierarchical logical relationship and attributes of each item in the COBOL **data** **file** ;

(b) data manipulation language subsystem means for implementing operations, including at least one of inserting, deleting, updating, selecting, and retrieving items of the COBOL **data** **file** in accordance with the request input by the user;

(c) query process subsystem means for deriving a resultant table of data items by selecting specific items from at least **one** COBOL **data** **file** in accordance with specified criteria that are provided in the request input by the user...

...file:

(i) a NF2) hierarchical logical relationship between levels of items comprising the COBOL data **file** ; and

(ii) attributes for each item;

(b) means for parsing a request entered by a...

25/5,K/2 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01057890 **Image available**
METHOD AND APPARATUS FOR RESTRICTING ACCESS TO A DATABASE ACCORDING TO USER PERMISSIONS
PROCEDE ET DISPOSITIF DE RESTRICTION D'ACCES A UNE BASE DE DONNEES EN FONCTION D'AUTORISATIONS UTILISATEUR

Patent Applicant/Assignee:
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Inventor(s):
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LEPEJIAN Yervant D, 920 Ramona Street, Palo Alto, CA 94301, US,
Legal Representative:
WILBAR William P (agent), Sierra Patent Group, Ltd., P.O. Box 6149, Stateline, NV 89449, US,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200388084 A1 20031023 (WO 0388084)
Application: WO 2003US10561 20030402 (PCT/WO US0310561)
Priority Application: US 2002115196 20020402
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-017/30
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 7361

English Abstract
A method and apparatus for restricted access to a database according to user permissions are described. A user permissions file (1007) residing on a server includes information of permissions related to database records, and which of those permissions are associated with individual users. A permissions manager (1006) also residing on the server manages user queries (1002) either directly by generating restricted queries (1008) that reflect only authorized access to database records for the user generating the query, or indirectly by downloading a permissions filter or information for a restricted parameters screen to the user's client, so as to generate the restricted query (1008) on the client. In any case, a database management system (1001) residing on the server receives the restricted query (1008) and generates a result (1003) by accessing only authorized database records for the user, and communicates the result (1003) back to the user's cleint.

French Abstract
L'invention concerne un procede et un dispositif de restriction d'acces a une base de donnees en fonction d'autorisations utilisateur. Un fichier

d'autorisations utilisateur (1007) residant sur un serveur contient des informations d'autorisations liees a des donnees de base de donnees, lesdites autorisations etant associees a des utilisateurs individuels. Un gestionnaire d'autorisations (1006) residant egalement sur le serveur gere des requetes utilisateur (1002) de facon directe par production de requetes restreintes (1008) caracterisant uniquement l'acces autorise a des donnees de base de donnees pour l'utilisateur effectuant la requete, ou de facon indirecte par telechargement vers l'abonne d'un filtre d'autorisations ou d'informations concernant un crible de parametres restreints, de maniere a produire la requete restreinte (1008) au niveau de l'abonne. Dans tous les cas, un systeme de gestion de base de donnees (1001) residant sur le serveur recoit la requete restreinte (1008) et produit un resultat (1003) par acces a des donnees de base de donnees autorisees pour l'utilisateur, et retourne le resultat (1003) a l'abonne.

Legal Status (Type, Date, Text)
Publication 20031023 A1 With international search report.

Fulltext Availability:
Claims

Claim
... said client
computer over a secure connection.

34 A method for restricting access to a **database** according to user permissions,
comprising:
receiving a user identification provided by a user of a...
...said computer is further
configured to: extract a first set of tables associated with said **database** query by parsing said **database** query; extract a second set of tables from said permissions associated with said user identification that restrict access by said user to only authorized **database** records in said **database** ; merge said first set of tables and said second set of tables to generate a merged set of tables; determine additional **tables** as necessary forjoining of said merged set of **tables** ; modify said FROM clause to include said additional **tables** and said merged set of **tables** ; and modify said WHERE clause to include additional **join** conditions as necessary for **joining** of said
merged set of **tables** .

40 A method for restricting access to a **database** according to user permissions,
comprising:
generating information of permissions related to **database** records; and
generating information of users and associated permissions from said information of pern-tissions so that access to said **database** records is restricted according to said information
of users and associated permissions.
41 A method for restricting access to a **database** according to user permissions, comprising providing a computer executable program including program code for facilitating...

...of users and associated permissions from said information of permissions so that access to said **database** records is to be restricted according to said information of users and associated permissions.
17

25/5,K/4 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00470868
PLATFORM-INDEPENDENT UNIVERSAL DATA ACCESS SYSTEM AND METHOD IN A CLIENT-SERVER ENVIRONMENT
SYSTEME ET PROCEDE UNIVERSELS D'ACCES AUX DONNEES, INDEPENDANTS DE LA PLATE-FORME, DANS UN ENVIRONNEMENT CLIENT-SERVEUR
Patent Applicant/Assignee:
SANGA INTERNATIONAL INC,
MAINE Shaun P J,
LUSSIER Mark J,
STEVENS Andrew G,
Inventor(s):
MAINE Shaun P J,
LUSSIER Mark J,
STEVENS Andrew G,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9901802 A2 19990114
Application: WO 98US13794 19980701 (PCT/WO US9813794)
Priority Application: US 97886186 19970701
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Main International Patent Class (v7): G06F-013/14
International Patent Class (v7): H04L-009/00
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 19981

English Abstract
A data access system (100) and method provides platform independent access from a client module (101) to a variety of data sources (108) stored in a variety of data formats on a variety of computer systems, including database sources and electronic mail sources (112). The system includes a desktop client module (104) that is a Java applet (105) that runs within a Java-compliant browser (104) located on a client computer (101). The desktop client module provides access to any one of a plurality of data sources, each represented as a book (200) on the client desktop. Access of the data associated with a book is implemented using a data access service application running on a server computer (102) in communication with the desktop client. The data access service application (106) includes a data source interface (107) that stores metadata associated with each book. Accessed data is presented in a customized viewing format as (127) as specified by various views (204) and forms associated with each book.

French Abstract
L'invention concerne un systeme et un procede d'acces aux donnees qui permet d'avoir acces, independant de la plate-forme, depuis un module client, a diverses sources de donnees stockees sous diverses structures de donnees sur divers systemes informatiques, y compris des sources de

bases de donnees et des sources de courrier electronique. Ce systeme comprend un module bureau client qui est une mini-application Java tournant sur un navigateur compatible Java, situe sur un ordinateur client. Le module bureau client permet d'acceder a n'importe quelle source de donnees parmi plusieurs, chacune etant representee sous la forme d'un livre sur le bureau client. L'acces aux donnees associees a un livre se fait au moyen d'une application de services d'acces aux donnees tournant sur un ordinateur serveur en communication avec le bureau client. L'application de services d'acces aux donnees comprend une interface source de donnees qui stocke les metadonnees associees a chaque livre. Les donnees auxquelles on accede sont presentees dans un format d'affichage personnalise, tel que specifie par divers affichages et diverses formes associees a chaque livre.

Fulltext Availability:
Claims

Claim
... method of claim 10 further comprising:
providing a user interface for identifying a data source;
determining the physical storage information associated with the identified data source;
generating metadata from the **determined** physical storage information; and
- 100 storing the metadata.

15 The method of claim 14 wherein the identified data source identifies data stored in **first** and second **tables** in a **database** and includes a **table** **join** condition.
16 The method of claim 14 wherein the identified data source is an electronic...
?

29/5,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01640981
FAST HASH-BASED MULTIMEDIA OBJECT METADATA RETRIEVAL
SCHNELLES HASH-BASIERTES METADATENRETRIEVAL FUR MULTIMEDIAOBJEKTE
RECUPERATION RAPIDE DE METADONNEES D'UN OBJET MULTIMEDIA BASEE SUR LE
HACHAGE
PATENT ASSIGNEE:
Koninklijke Philips Electronics N.V., (200769), Groenewoudseweg 1, 5621
BA Eindhoven, (NL), (Proprietor designated states: all)
INVENTOR:
HAITSMA, Jaap, A., Prof . Holstlaan 6, NL-5656 AA Eindhoven, (NL)
LEGAL REPRESENTATIVE:
Groenendaal, Antonius W. M. (59381), Philips Intellectual Property & Standards P.O. Box 220, 5600 AE Eindhoven, (NL)
PATENT (CC, No, Kind, Date): EP 1474760 A1 041110 (Basic)
EP 1474760 B1 051207
WO 2003067467 030814
APPLICATION (CC, No, Date): EP 2003701639 030127; WO 2003IB260 030127
PRIORITY (CC, No, Date): EP 200275501 020206
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;
HU; IE; IT; LI; LU; MC; NL; PT; SE; SI; SK; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO
INTERNATIONAL PATENT CLASS (V7): G06F-017/30
CITED PATENTS (EP B): EP 955592 A; WO 1/62004 A; WO 1/88900 A; US 5918223 A
CITED REFERENCES (EP A):
See references of WO 03067467A1;
CITED REFERENCES (EP B):
ALLAMANCHE, E., HERRE, J. ET AL: "Content-based Identification of Audio
Material Using MPEG-7 Low Level Description" PROCEEDINGS SECOND ANNUAL
INTERNATIONAL SYMPOSIUM ON MUSIC INFORMATION RETRIEVAL 2001, 15 - 17
October 2001, pages 1-8, XP002198244 Paris, France
HAITSMA, J., KALKER, T., OOSTVEEN, J.: "Robust Audio Hashing for Content
Identification" PROCEEDINGS INTERNATIONAL WORKSHOP ON CONTENT-BASED MULTIMEDIA INDEXING, 19 - 21 September 2001, pages 1-8, XP002198245 Brescia, Italy cited in the application
HAMPAPUR, A, BOLLE, R.: "Feature Based Indexing for Media Tracking" PROCEEDINGS INTERNATIONAL CONFERENCE ON MULTIMEDIA AND EXPO 2000 (ICME-2000), 30 July 2000 (2000-07-30) - 2 August 2000 (2000-08-02),
pages 1709-1712, XP002198246 New York, USA;
NOTE:
No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 031008 A1 International application. (Art. 158(1))

Application: 031008 A1 International application entering European phase
Application: 041110 A1 Published application with search report
Examination: 041110 A1 Date of request for examination: 20040906
Examination: 050330 A1 Date of dispatch of the first examination report: 20050210
Grant: 051207 B1 Granted patent
Change: 060607 B1 Title of invention (German) changed: 20060607
Change: 060607 B1 Title of invention (English) changed: 20060607
Change: 060607 B1 Title of invention (French) changed: 20060607
Change: 060705 B1 Title of invention (German) changed: 20060705
Change: 060705 B1 Title of invention (English) changed: 20060705
Change: 060705 B1 Title of invention (French) changed: 20060705
Change: 060816 B1 Title of invention (German) changed: 20060816
Change: 060816 B1 Title of invention (English) changed: 20060816
Change: 060816 B1 Title of invention (French) changed: 20060816
Change: 060823 B1 Title of invention (German) changed: 20060823
Change: 060823 B1 Title of invention (English) changed: 20060823
Change: 060823 B1 Title of invention (French) changed: 20060823
Change: 060830 B1 Title of invention (German) changed: 20060830
Change: 060830 B1 Title of invention (English) changed: 20060830
Change: 060830 B1 Title of invention (French) changed: 20060830
Change: 060906 B1 Title of invention (German) changed: 20060906
Change: 060906 B1 Title of invention (English) changed: 20060906
Change: 060906 B1 Title of invention (French) changed: 20060906
Change: 060920 B1 Title of invention (German) changed: 20060920
Change: 060920 B1 Title of invention (English) changed: 20060920
Change: 060920 B1 Title of invention (French) changed: 20060920

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	200549	490
CLAIMS B	(German)	200549	508
CLAIMS B	(French)	200549	609
SPEC B	(English)	200549	5481

Total word count - document A 0
Total word count - document B 7088
Total word count - documents A + B 7088

...SPECIFICATION account when designing the tables in the database 121. In the embodiment shown in Fig. **2** , the database 121 comprises a single table with entries (records) comprising respective fingerprints and sets of metadata.

Another way to realize the **database** 121 is to set up several **tables** . A first table comprises a plurality of unique **identifiers** (primary keys) each associated with respective sets of metadata. Such tables can be obtained from various music **identification** sources. The combination of artist, title and year of release could be combined to form a unique **identifier** , although this is not guaranteed to be unique, so preferably a really globally unique value...

...then set up with entries comprising for each multimedia object its fingerprint and its unique **identifier** from the first table. If multiple fingerprints are possible for one multimedia object, all these fingerprints are stored in the second table, all associated with the one unique **identifier** for that multimedia object.

The DBMS backend module 203 then matches the fingerprint computed by the fingerprinting module 202 against the fingerprints in the second table, obtains an **identifier** and matches the **identifier** against the first **table** to obtain the metadata. If the **database** 211 is an SQL **database** , the **two** **tables** could be "joined" (in SQL terms) on the **identifier** .

The DBMS backend module 203 feeds the results of the query to the response module...

...mobile phone, then the telephone number can be obtained through Caller ID or Automatic Number **Identification** or similar means. The input module 201 then supplies the calling number to the response...

29/5,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00966565
Method and apparatus for performing a join query in a database system
Verfahren und Einrichtung zum Ausfuhren einer Verbindungsabfrage in einem
Datenbanksystem
Methode et dispositif por realiser des requetes de jointures dans un syseme
de bases de donnees
PATENT ASSIGNEE:
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INVENTOR:
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PATENT (CC, No, Kind, Date): EP 877327 A2 981111 (Basic)
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INTERNATIONAL PATENT CLASS (V7): G06F-017/30

ABSTRACT EP 877327 A2
A computer implemented method for generating a response to a join. Two tables are divided into fragments. A join fragment map identifies, for each respective fragment from the first table, the fragments from the second table which contain a record that satisfies the join predicate with a record from the respective fragment from the first table. The map is used to eliminate fragments which cannot satisfy the join predicate.
ABSTRACT WORD COUNT: 70
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Figure number on first page: 1

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Assignee:	020327 A2	Transfer of rights to new applicant: International Business Machines Corporation (200128) New Orchard Road Armonk, NY 10504 US
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FULLTEXT AVAILABILITY:

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CLAIMS A	(English)	9846	1121
SPEC A	(English)	9846	6177
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SPECIFICATION

Background

The present invention relates generally to **database** systems, and more particularly to methods and apparatus for the processing of queries having join...

...in the same state as their residence. A join query must include at least one **join** predicate to specify the criteria to select records from the two tables (e.g., that...

...of the customer be the same as the state in which the transaction occurred). A **join** query may also include one or more single-table predicates to select records from the individual tables.

To perform a **join** query, a conventional **database** system examines every record in the second table for each record in the first table to determine whether any records satisfy the **join** predicate. Such records may be said to "match." The **database** system then constructs a query table from the matching records.

In many circumstances, conventional **database** operations may be unacceptably slow when performing a **join** query. Several techniques have been developed to reduce the time required to process **join** queries. One technique to improve the performance of a **join** query is to reduce the amount of data searched by the **database** system. In particular,

records
that cannot satisfy the **join** predicate should be eliminated from both
tables of the query.
An example of such a...

...r < 10; (Example 1)
This query attempts to find all records that satisfy the **join** predicate R.r = S.s.
Since records from Table R must also satisfy the predicate...

...since R.r must equal S.s, by applying the algebraic rule of transitivity, the **database** system can determine that matching records
of Table S must also satisfy the condition S.s < 10.
After deducing the predicate on S, the **database** system may apply the
predicate to eliminate records from the scan of S that cannot...

...records satisfy the criteria.
A 'scan' is the process of reading a fragment of a **table** . Fragments
may be stored independently on separate disks or on separate nodes in a
cluster...

...Fragment elimination' is a process by which the database system can identify fragments from a **table** that cannot participate in the result
of the query and remove those fragments from consideration...network.
The computer system 10 includes a database 30 for storing and processing data. The **database** 30 may be centralized on a single computer, or it may be distributed across the computer network. Typically, the **database** 30 will be managed by a **database** management
system 38 running on a computer linked to the **database** , either permanently or transiently, although in this illustration the **database**
management system is shown as running on the computer 12.
The invention will be illustrated using a **database** configured to store information for a credit card company. The **database** 30 is a relational **database** with a customer table ("Table R") 32 and a transaction **table** (" **Table** S") 34. In addition, the **database** 30 includes a **join** fragment map 36 bitmap (discussed below with reference
to Figures 5-6). The **database** 30 may also include other resources, such
as rules for interacting and manipulating objects, index **tables** , and
interpreters to execute query requests (not shown).
Referring to Figure 2A, the customer **table** 32 includes a record 40
for each customer. Each record 40 includes a customer number...

...R.state) 46, and a credit card expiration month field (R.month) 48. The
customer **table** 32 is partitioned into twelve fragments, one for

each
expiration month. Each fragment contains records...
...59. The customer number fields 42 and 59 may be used as keys to link
Table S to Table R. For these illustrations, the transaction table
34 is
fragmented into fifty...fragments from Table R by applying known
single-table techniques.
To eliminate other fragments, the **database** system generates or
accesses the **join** fragment map 36. The **join** fragment map 36
indicates
which fragments from the two tables do not contain records which can
satisfy the **join** predicate and need not be searched during the
query
execution. Thus, the **join** fragment map is specific both to the
content
of the **database** and the **join** predicate. If the content of the
database changes, the **join** fragment map may become invalid. The
join
fragment table 36 may be stored as a bitmap, as multiple field-
fragment
maps, or...

...structure that indicates which pairs of fragments do not contain
records
that can satisfy the **join** predicate. The **join** fragment map may be
composed from two field-fragment maps 60 and 70 (see Figures 3A and
3B)
for the two tables in the query. The **join** fragment map may be
implemented in a **database** system using a relational, hierarchial,
object-oriented, or non-relational **database** .
Referring to Figure 3B, the database system 30 generates or
accesses a
field-fragment map...
...match the state. For example, field-fragment map 70 includes a list
of
fragments from **Table** S that contain records with S.state = "CA", a
list
of fragments that contain records...

...3A, the database system 30 generates or accesses a similar
field-fragment map 60 for **Table** R. The field-fragment map 60 also
includes an entry 62 for each state. Each entry 62 matches a
particular
state 64 to a list 66 of fragments from **Table** R that contain
records
that match the particular state. There should be fifty entries 62...

...66 will contain at most twelve fragment numbers because there are
only
twelve fragments in **Table** R.
Referring to Figures 3A and 3B, by reading the first row of the
field-fragment maps 60 and 70 together, the **database** system may
determine that some records from certain fragment numbers (4, 5, 9
and
12) of **Table** R will match some records from certain fragment
numbers
(2, 4, 7, 27 and 39) of **Table** S. Similarly, by reading from the

second row of each map, the **database** system may determine that records from certain fragment numbers (1, 2, 7, 9 and 11) of **Table** R will match records from certain fragment numbers (5, 7, 27, 30, 31 and 45) of **Table** S.

Referring to Figure 4, the **join** fragment map may be composed of a single fragment-fragment map 80, formed by combining...

...the state columns 64 and 74 from the two field-fragment maps. The fragment-fragment **join** map 80 will contain twelve entries 82, i.e., one entry for each fragment of **Table** R. Each entry 82 will include a list 86 of fragment numbers from **Table** S that contain records that satisfy join predicate with records from the associated fragment 84 of **Table** R.

For example, the first entry has a list of fragments (5, 7, 27, 30, 31, 45) from **Table** S that contain records that satisfy the join predicate with one or more records from...

...bit (shown as shaded in the Figure) denotes that some record in the fragment of **Table** S will join with the corresponding fragment of Table R. The bitmap 90 may be...only six fragments of Table S need be scanned.

Similarly, if the record fetched from **Table** R is fromfragment #12, then only five fragments from **Table** S need be scanned, namely fragments #2, #4, #7, #27 and #39.

The creation of...

...A user can explicitly create a bitmap using the data definition language for a given **database** in similar fashion to the creation of an index.

The **database** system can implicitly create a bitmap when a foreign key relationship is specified as an integrity constraint. The system can exhaustively search for **joins** between **tables** that yield sparse bitmaps.

In all of these cases, the system can use sampling to...

...the percentage of bits that are turned on in a bitmap indicating fragments from two **tables** that have matching tuples.

To generate (or build) the bitmap 90, the **database** system executes a 'simplified query' based on the original query. The simplified query contains the same **join** predicate as the original query, but none of the single- **table** predicates. For example, the simplified query for the query of Example 3 is:

SELECT R...

...S.state (Example 4)
Executing the simplified query returns the corresponding fragment numbers from each **table** that contain matching records. The bitmap 90 may be generated directly, without generating the intermediate **join** map 80 described above. Various techniques may be used to increase the speed with which...

...query is executed. Preferably, the necessary fields of the records from the first or second **table** are retrieved from the leaves of a **table** index rather than from the **table** itself. In addition, column indices can be used, if they exist. As another example, information...

...of the simplified query, once a match has been made between fragments from the two **tables** , other records need not be searched for the same match.
The creation of a bitmap...

...too full, i.e., non-sparse, indicating that records from a fragment of the first **table** have corresponding matching records in a large percentage of the fragments from the second table...bitmap B2) can be used to eliminate fragments from Table R again. In general, the **database** system would begin by using single-table fragment elimination to eliminate fragments from Tables R...

...bitmap B2 is used against Table S to eliminate fragments in Table T. Then the **database** system uses the newly eliminated fragments in Table T to reduce Table S again, and...

...it uses the newly eliminated fragments in Table S to reduce Table R again. The **database** system continues to repeat this procedure until no more fragments can be eliminated from any table.
The **database** system should pick the former procedure if **join** queries between **Tables** R and T are common since that procedure results in generating bitmap B3 (without explicitly...

...simplified bitmap query") which can be stored and used later. On the other hand, the **database** system should pick the latter procedure if the **join** queries between **Tables** R and T are relatively rare and do not warrant the overhead of maintaining bitmap B3.
Since the **join** fragment map is generated from the result of an actual

join query, i.e., since the map depends upon the actual data in the **tables** , its usefulness is diminished or even destroyed when the underlying **tables** are modified.

If records have been deleted from one or both **tables** , the bitmap can still be used. Performance may be less than ideal as the **database** system may search fragments that no longer have matching records.

If records have been added or updated in one or both **tables** , the integrity of the bitmap may be destroyed. If the added or modified value now...the bitmap as invalid if data modification occurs to one or both of the underlying **tables** which invalidates the previous bitmap. The executor 200 uses the bitmap to perform dynamic co...no additional fragments were marked as inactive from Table R, then in step 136 the **database** system returns to the optimizer rather than proceeding to the subroutine 140 to optimize Table...

...172). A simplified query is then constructed (step 174). The simplified query contains the same **join** predicate as the query presented by the user, but all single-table predicates are removed...

...the dictionary manager subroutine 190 is called (step 180), the locks are released, and the **database** system returns to the optimizer (step 182).

Referring to Figure 12, the dictionary manager 190 begins by determining whether a previous bitmap has been created for the **join** predicate of the current query (step 192). If a previous bitmap exists, then the old...

...this query, then the step of discarding the previous bitmap may be skipped. Finally, the **database** system returns to the bitmap generator subroutine (step 198).

Referring to Figure 13, executor 200 is called when the **database** system executes the **join** query in step 106 (see Figure 7). In brief, the executor receives a record from...
...although Tables R and S could be switched in the operations discussed below. Then the **database** system uses the **join** fragment map to identify the fragments of Table S that should be scanned for matching records (step 204). Specifically, if the **join** fragment map is a bitmap, the **database** system accesses the bit at a row equal to the fragment number of Table R and a column equal to the fragment number of **Table** S to determine whether that pair of fragments contain records which satisfy the **join** predicate. The identified fragments of **Table** S are scanned

for records that satisfy the **join** predicate (step 206). These records are collected (step 208) and returned to the user (step...

...200 can be carried out in a looped process in which each active fragment from **Table** S is examined, the bitmap is used to determine whether the fragment should be scanned...

...CLAIMS preceding claim, further comprising the steps of
receiving or accessing a record from the first **table** ; and
scanning the identified fragments for records that satisfy the **join** predicate with the received record.

12. A method as claimed in claim 11, further comprising the step of selecting a fragment containing a record which satisfies the **join** predicate.

13. A method as claimed in any preceding claim, wherein the **join** query is intended to be executed in relational **database tables** which are separable into fragments.

14. A method as claimed in any preceding claim, wherein the step of creating comprises executing a simplified query having at least part of the **join** predicate.

15. A method as claimed in any preceding claim, wherein the **join** fragment map is a bitmap having a bit for each pair of fragments of the first and second **tables** and the method comprise the step of creating the bitmap having a bit for each pair of fragments of the first and second **tables** .

16. A method as claimed in claim 15, further comprising the steps of determining whether...

29/5,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00485379
Methods and apparatus for accessing non-relational data files using relational queries.
Verfahren und Gerate im mit relationellen Abfragen auf nicht relationelle Dateien zuzugreifen.
Procedes et dispositifs pour acceder aux fichiers non-relationels en utilisant des interrogations relationelles.
PATENT ASSIGNEE:
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PATENT (CC, No, Kind, Date): EP 490465 A2 920617 (Basic)
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PRIORITY (CC, No, Date): US 623762 901207
DESIGNATED STATES: DE; FR; GB; IT
INTERNATIONAL PATENT CLASS (V7): G06F-017/30
CITED REFERENCES (EP A):
IBM TECHNICAL DISCLOSURE BULLETIN. vol. 19, no. 11, April 1977, NEW YORK US pages 4404 - 4406 L. LEVY : 'Generalized technique for storage-independent data-accessing interface'
REVIEW OF THE ELECTRICAL COMMUNICATIONS LABORATORIES vol. 29, no. 1-2, January 1981, pages 32 - 50 S. HANATA ET AL : 'Conversational Database Query Language'
AFIPS 1984 NATIONAL COMPUTER CONFERENCE 9 July 1984, LAS VEGAS, US pages 537 - 545 M. RUSCHITZKA ET AL : 'Sibyl: A relational database system with remote-access capabilities';

ABSTRACT EP 490465 A2
A relational data access facility allows relation-type queries to access data stored in non-relational data files by converting relational

queries into a set of common commands which are sent to data drivers to obtain the data specified by those queries. The facility uses metadata which describes the organization of the data in the non-relational files, and examines the expressions in the relational queries to formulate an access plan for the data. The plan is formulated to reduce cost and promote efficiency. (see image in original document)
ABSTRACT WORD COUNT: 88

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Application:	920617	A2	Published application (Alwith Search Report ;A2without Search Report)
Examination:	920617	A2	Date of filing of request for examination: 910719
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Examination:	980624	A2	Date of despatch of first examination report: 980507
Change:	990107	A2	International patent classification (change)

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FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1715
SPEC A	(English)	EPABF1	13940
Total word count - document A			15655
Total word count - document B			0
Total word count - documents A + B			15655

...SPECIFICATION generator (QO APG) 334, and an expression generator (DXR GEN) 336. QO APG includes a **join** optimizer (JO) 335. Request processing system 340 includes a data collection manager (DCM) 342, a work space manager (WSM) 344, an expression evaluator (DXR EVL) 346, and a **join** evaluator (JE) 348.

Dictionary driver 350 preferably connects to a dictionary 380 via a CDD/Plus driver 370. Data driver 360 would connect to a non-relational data **file** which is not shown in Figure 3.

NSDS 305 emulates relational **databases** and their organization into fields, relations, and views. NSDS 305 thus makes non-relational data **files** appear to the clients submitting relational queries as a single image of a relational **database** . To understand the detailed elements of NSDS 305, a description will first be provided for...the preferred implementation. In the preferred implementation, the metadata driver

must support the dictionary attributes **identified** above.

The metadata drivers are specified using a "DECLARE SCHEMA" command to identify the metadata driver for a particular non-relational **data file** . If no dictionary driver is identified, the default is to the CDD/Plus in the...

...The RELATION CALLBACK function and VIEW CALLBACK function operate similarly for relations and views, respectively.

Second , because the dictionary driver has a common interface with the NSDS, that interface being defined...

...this invention.

D. Data Driver

The data drivers provide intelligent interfaces to the non-relational **data files** . The intelligence in the interface involves knowledge of how to use the particular **data file** as well as the knowledge of the particular data objects being operated upon. Much of...

...for those columns or fields.

Each of the data drivers can support more than one **data file** is the preferred implementation. NSDS 305 can also support several **different** data drivers.

Each of the tuples or data records in a data relation or **file** must be uniquely identified by a **database** key or dbkey. As explained above, dbkey could be a primary key of the tuple...

29/5,K/12 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01057890 **Image available**
METHOD AND APPARATUS FOR RESTRICTING ACCESS TO A DATABASE ACCORDING TO USER
PERMISSIONS
PROCEDE ET DISPOSITIF DE RESTRICTION D'ACCES A UNE BASE DE DONNEES EN
FONCTION D'AUTORISATIONS UTILISATEUR

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Application: WO 2003US10561 20030402 (PCT/WO US0310561)
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SK
SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
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English Abstract
A method and apparatus for restricted access to a database according to user permissions are described. A user permissions file (1007) residing on a server includes information of permissions related to database records, and which of those permissions are associated with individual

users. A permissions manager (1006) also residing on the server manages user queries (1002) either directly by generating restricted queries (1008) that reflect only authorized access to database records for the user generating the query, or indirectly by downloading a permissions filter or information for a restricted parameters screen to the user's client, so as to generate the restricted query (1008) on the client. In any case, a database management system (1001) residing on the server receives the restricted query (1008) and generates a result (1003) by accessing only authorized database records for the user, and communicates the result (1003) back to the user's cleint.

French Abstract

L'invention concerne un procede et un dispositif de restriction d'acces a une base de donnees en fonction d'autorisations utilisateur. Un fichier d'autorisations utilisateur (1007) residant sur un serveur contient des informations d'autorisations liees a des donnees de base de donnees, lesdites autorisations etant associees a des utilisateurs individuels. Un gestionnaire d'autorisations (1006) residant egalement sur le serveur gere des requetes utilisateur (1002) de facon directe par production de requetes restreintes (1008) caracterisant uniquement l'acces autorise a des donnees de base de donnees pour l'utilisateur effectuant la requete, ou de facon indirecte par telechargement vers l'abonne d'un filtre d'autorisations ou d'informations concernant un crible de parametres restreints, de maniere a produire la requete restreinte (1008) au niveau de l'abonne. Dans tous les cas, un systeme de gestion de base de donnees (1001) residant sur le serveur recoit la requete restreinte (1008) et produit un resultat (1003) par acces a des donnees de base de donnees autorisees pour l'utilisateur, et retourne le resultat (1003) a l'abonne.

Legal Status (Type, Date, Text)
Publication 20031023 A1 With international search report.

Fulltext Availability:
Detailed Description
Claims

Detailed Description

... viewicludes information, for example, only for DEVICE1, DEVICE2 or DEVICE3. In particular, for the PRODUCTION **table** of FIG. 7, three views are created.

CREATE VIEW PRODUCTlON1 AS SELECT *
FROM PRODUCTION
WHERE...
...this case.

Although the methods and apparatuses described in reference to FIGS. 4-6 provide **database** security, they have numerous problems. For example, they are cumbersome to 3 implement, because of...

...maintain, because of the large number of items to be updated as the amount of **database** information grows larger. Further, such techniques may fail their primary purpose of **database** security when a **join** graph automatically generated for a query includes additional tables that are not otherwise protected from...

...an object of the present invention to provide a method for restricting access to a **database** according to user permissions, that is easy to implement and simple to maintain.

Another object is to provide an apparatus for restricting access to a **database** according to user permissions, that is easy to implement and simple to maintain.
Still other objects are to provide a method and an apparatus for restricting access to a **database** according to user perm'issions, that do not fail their primary purpose of **database** security as a result of the inclusion of additional tables not specified in the original query that are added through a **join** graph for the query.

These and additional objects are accomplished by the various aspects of ...

...present invention, wherein briefly stated, one aspect is a method for restricting access to a **database** according to user permissions, comprising: receiving a user identification provided by a client user;
receiving a query provided by the client user for a **database** ; and
generating a restricted query to be provided as input to a **database** management system for the **database** by adding one or more restrictions to the query according to permissions associated with the user identification so as to restrict access to the **database** .

Still another aspect is an apparatus for restricting access to a

database according to user perniissions, comprising a server computer
configured to: receive a user identification from...
...database management system for accessing a database in response to a restricted query; user permissions **file** including information associating users with database records accessible to those users; and
permissions manager generating...

...list of tables involved in the query. Continuing with the example, the
first list of **tables** in the above query is I WAFERS 1.

In 1504, a Est of permissions for...

...to form a merged list of tables.

Continuing with the example, the merged list of **tables** in this case is
IWAFERS, PRODUCTION1.

In 1506, **joining** requirements for the merged list of **tables** are satisfied, resulting in a final list of **tables** including those necessary to complete a **join** graph including the merged Est of **tables**
. U.S. Patent Application Ser. No. 09/871,484 entitled "Automatic Generation of **Join** Graphs for Relational **Database** Queries," **filed**
May 31, 2001, assigned to the same assignee as the present application,
and incorporated herein...
...this reference, describes one method for performing this function. Now,
continuing with the example, the **join** procedure adds the **table** LOTS,
so that the final list of **tables** is IWAFERS, PRODUCTION, LOTS1.
Additionaljoinconditionsnecessarytocompletethejoingraphinclude.

PRODUCTION.DEVICE=LOTS.DEVICE, and
LOTS.LOT=WAFERS.LOT.

In 1507, the final list of **tables** is used to replace the "FROM" list
in. the query.

Continuing with the example, replacing...

...LOT='Al.

In 1508, the "WHERE" list of the query is modified to include any **join**
conditions that are missing, but should be included. Also, additional restrictions are added to the...

...granted to the client user that restrict the user's access to records of

the **database** . Again continuing with the example, adding the **join** conditions in the WHERE clause results in the modified query.

SELECT WAFERS.LOT, WAFERS.WAFER...

Claim
... a WHERE clause, and said modifying said query comprises modifying said
FROM clause to include **tables** required by said permissions associated with said user identification.

5 The method according to claim 4, wherein said modifying said query further comprises modifying said WHERE clause to include **join** conditions resulting from including said **tables** required by said permissions associated with said user identification in said FROM clause.

6 An apparatus for restricting access to a **database** according to user
permissions,
comprising a server computer configured to:
receive a user identification from a client computer;
receive a query from said client computer for a **database** ; and
generate a restricted query to be provided as input to a **database** management system for said **database** by adding one or more restrictions
to said query according to permissions associated with said user identification so as to restrict access to said **database** .
7 The apparatus according to claim 6, wherein said server computer is configured to generate...

...server computer is configured to modify said query by modifying said FROM clause to include **tables** required
by said permissions associated with said user identification.

10 The apparatus according to claim...

...computer is further configure to modify said query by modifying said WHERE clause to include **join** conditions resulting from including said
tables required by said permissions associated with said user identification in said FROM clause. It. An apparatus for restricting access to a **database** according to user permissions,
comprising a server computer including:
database management system for accessing a **database** in response to a
restricted query; user permissions **file** including information associating users with **database** records
accessible to those users; and
permissions manager generating said restricted query according to said
information included in said user permissions **file** in response to a query from an identified user, and
providing said restricted query to said **database** management system.

12 The apparatus according to claim 1 1, wherein said server computer is

...

...on said client computer so that said user interface displays said available options limited by **tables** , columns and records accessible to said user on a display screen of said client computer...

...joining of said merged set of tables.

38 An apparatus for restricting access to a **database** according to user permissions, comprising a computer configured to receive a user identification provided by a user of a client computer; receive a **database** query including a SELECT clause, FROM clause, and WHERE clause provided by said user; and modify said WHERE clause of said **database** query to include permissions associated with said user identification that restrict access by said user to only authorized **database** records in a **database** .

39 The apparatus according to claim 38, wherein said computer is further configured to: extract a first set of tables associated with said **database** query by parsing said **database** query; extract a second set of tables from said permissions associated with said user identification that restrict access by said user to only authorized **database** records in said **database** ; merge said first set of tables and said second set of tables to generate a...

...tables and said merged set of tables; and modify said WHERE clause to include additional **join** conditions as necessary for **joining** of said merged set of tables.

40 A method for restricting access to a **database** according to user permissions, comprising: generating information of permissions related to **database** records; and generating information of users and associated permissions from said information of pern-tissions so that access to said **database** records is restricted according to said information of users and associated permissions.

41 A method for restricting access to a **database** according to user permissions, comprising providing a computer executable program including program code for facilitating generation of information of permissions related to **database** records, and generation of information of users and associated permissions from said information of permissions...

29/5,K/13 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01055617 **Image available**
COMPARISON OF SOURCE FILES
COMPARAISON DE FICHIERS SOURCE
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(Residence), DE (Nationality)
Inventor(s):
NEUMANN Ralf, Albrecht-Durer-Str. 1 d, 46539 Dinslaken, DE,
Legal Representative:
COHAUSZ & FLORACK (24) (agent), Bleichstrasse 14, 40211 Dusseldorf, DE,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200385552 A2-A3 20031016 (WO 0385552)
Application: WO 2003EP3698 20030409 (PCT/WO EP03003698)
Priority Application: DE 10215852 20020410; EP 200224709 20021106
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SK
SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-017/30
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4994

English Abstract
A method of comparing two source files containing database queries is described in which the database queries are ascertained from the two source files and in which the ascertained database queries from a first source file are compared with the ascertained database queries of a second source file. A quick and efficient analysis of different program versions is achieved by ascertaining the syntax of each database query with the help of a syntax analysis, by comparing the syntax of the database queries of the source files with one another and by presenting

the results of the comparison.

French Abstract
L'invention concerne un procede permettant de comparer deux fichiers source contenant des demandes de base de donnees, lesquelles demandes sont determinees a partir des deux fichiers source dans lesquels les demandes determinees provenant d'un premier fichier source sont comparees aux demandes de base de donnees determinees d'un second fichier source.
Une analyse rapide et efficace de differentes versions de programme est realisee par determination de la syntaxe de chaque demande de base de donnees au moyen d'une analyse de syntaxe par comparaison de la syntaxe des demandes de base de donnees des fichiers source avec une autre et par presentation des resultats de la comparaison.

Legal Status (Type, Date, Text)
Publication 20031016 A2 Without international search report and to be republished upon receipt of that report.
Examination 20031218 Request for preliminary examination prior to end of 19th month from priority date
Search Rpt 20040205 Late publication of international search report
Republication 20040205 A3 With international search report.
Republication 20040205 A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Fulltext Availability:
Detailed Description
Claims

Detailed Description
COMPARISON OF SOURCE **FILES**
FIELD OF THE INVENTION
[0001] The present invention relates t6a method of comparing two source
...

...a comparison device comprising a reader for reading source files and an extractor for extracting **database** queries from source **files** .

BACKGROUND OF THE INVENTION
[0002] **Database** queries from external sources are coded to access **databases** , particularly relational **databases** such as IBM's DB2. The coded query text of a **database** quer y comprises different elements. **Database** queries are carried out through a standardized interface, the Structured Query Language (SQL) interface.
Here SQL queries are transmitted to the **database** system and

processed
by the **database** system.

These SQL queries can consist of a number of query elements, whereby, for
example,
theelements"CursorName","StatementType"(Select,lnsert,Updaie,Delete),
" **Tables** ", " **Join** .s", "Predicates", "Select, Update and Insert
Columns", "Select Option Text" and "Select Option Columns" can be used.

[0003] On a query of a **database** us.ing SQL, actions are triggered in
the
database system that enable the **database** query to be answered. The
response times for **database** queries can vary greatly depending on.the
query elements that are coded. It is desired...

...possible response times.

CONFIRMATION COPY
[0004] Programs that work with the data records of the **databases** are
changed over the course of time. A change in the SQL queries can
accompany...

Claim
1 A method of comparing a first source file with a second source file,
said **first**
and second.source files each comprising one or several database queries,
wherein said database queries are ascertained from said first and **second**
source **files** and wherein the ascertained **database** queries of said
first source **file** are **compared** with the **ascertained** **database**
queries of said **second** source **file** ,
which method comprises:
performing a syntax analysis to **ascertain** a syntax of each of said
database
queries;
performing a comparison of said syntax of...

...and
presenting the results of said comparison.

2 The method of claim 1, wherein each **database** query of the first
source **file** is combined with each **database** query of the **second**
source **file** to form combined
database queries.
3 The method of claim 1 or 2, wherein said...

...each syntactical element and -wherein the weighted difference between

the syntactical elements of the combined **database** queries is used to
determine the similarity
value with the help of said weightso

7...

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(12) Patent Application Publication (10) Pub. No.: US 2003/0195878 A1

Neumann (43) Pub. Date: Oct. 16, 2003

(54) COMPARISON OF SOURCE FILES

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(22) Filed: Apr. 9, 2003

(30) Foreign Application Priority Data

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Nov. 6, 2002 (EP) ..... EP 02 024 709.4

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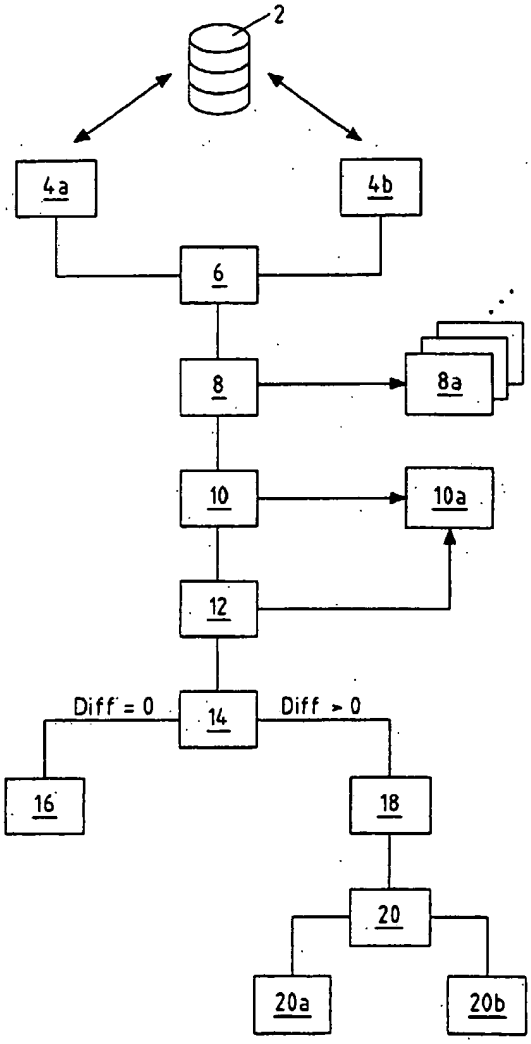
(52) U.S. Cl. 707/3

(57) ABSTRACT

A method of comparing two source files containing database queries is described in which the database queries are ascertained from the two source files and in which the ascertained database queries from a first source file are compared with the ascertained database queries of a second source file. A quick and efficient analysis of different program versions is achieved by ascertaining the syntax of each database query with the help of a syntax analysis, by comparing the syntax of the database queries of the source files with one another and by presenting the results of the comparison.



DERWENT-ACC-NO: 2003-790290

DERWENT-WEEK: 200627

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TITLE: Database query comparison method in which queries from different programs, or versions of the same program, are analyzed using syntax analysis tools and then the syntax results for each query are compared

INVENTOR: NEUMANN, R

PATENT-ASSIGNEE: SOFTWARE ENG GMBH[SOFTN] , NEUMANN R[NEUMI]

PRIORITY-DATA: 2002DE-1015852 (April 10, 2002)

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PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2249529 T3	April 1, 2006	N/A	000	G06F 017/30
EP 1353278 A2	October 15, 2003	G	009	G06F 017/30
US 20030195878 A1	October 16, 2003	N/A	000	G06F 017/30
WO **2003085552** A2	October 16, 2003	E	000	G06F 017/30
DE 10215852 A1	October 30, 2003	N/A	000	G06F 017/30
AU 2003227457 A1	October 20, 2003	N/A	000	G06F 017/30
EP 1353278 B1	September 7, 2005	G	000	G06F 017/30
DE 50204176 G	October 13, 2005	N/A	000	G06F 017/30

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU
LV MC MK NL PT RO SE SI SK TR AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN
CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU

SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW AT BE BG CH CY CZ
DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE
SI SK SL SZ TR TZ UG ZM ZW AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI
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APPLICATION-DATA:

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ES 2249529T3	N/A	2002EP-0024709	November 6, 2002
ES 2249529T3	Based on	EP 1353278	N/A
EP 1353278A2	N/A	2002EP-0024709	November 6, 2002
US20030195878A1	N/A	2003US-0410316	April 9, 2003
WO2003085552A2	N/A	2003WO-EP03698	April 9, 2003
DE 10215852A1	N/A	2002DE-1015852	April 10, 2002
AU2003227457A1	N/A	2003AU-0227457	April 9, 2003
AU2003227457A1	Based on	WO2003085552	N/A
EP 1353278B1	N/A	2002EP-0024709	November 6, 2002
DE 50204176G	N/A	2002DE-0504176	November 6, 2002
DE 50204176G	N/A	2002EP-0024709	November 6, 2002
DE 50204176G	Based on	EP 1353278	N/A

INT-CL (IPC): G06F017/30

ABSTRACTED-PUB-NO: EP 1353278A

BASIC-ABSTRACT:

NOVELTY - Method for comparison of two source files containing database
queries, in which the two database queries are extracted from the source files
and compared. Accordingly the syntax of each query is analyzed using syntax
analysis tools, then the syntax of the database queries are compared

with each
other and the results of the comparison are output.

USE - Method for comparison of database queries, e.g. for comparison of queries
generated using different database languages, programs or versions of the same
language or program.

ADVANTAGE - Differences between two program versions can be quickly and
reliably determined, so that possible problems can be prevented.

DESCRIPTION OF DRAWING(S) - The figure shows a flow diagram of an inventive
method.

different program versions. 4a, 4b

CHOSEN-DRAWING: Dwg.1/2

TITLE-TERMS: DATABASE QUERY COMPARE METHOD QUERY PROGRAM VERSION PROGRAM
ANALYSE SYNTAX ANALYSE TOOL SYNTAX RESULT QUERY COMPARE

DERWENT-CLASS: T01

EPI-CODES: T01-E01C; T01-F05A; T01-J05B3;

SECONDARY-ACC-NO:
Non-CPI Secondary Accession Numbers: N2003-633080

29/5,K/14 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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01035305 **Image available**
METHODS AND SYSTEM FOR AUTHORIZING RECORD REPLICATION
PROCEDES ET SYSTEME PERMETTANT D'AUTORISER UNE REPLICATION DE DISQUE
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
MIDDELJANS Jakobus, Prof . Holstlaan 6, NL-5656 AA Eindhoven, NL, NL (Residence), NL (Nationality), (Designated only for: US)
Legal Representative:
GROENENDAAL Antonius W M (agent), Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven, NL,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200365362 A2-A3 20030807 (WO 0365362)
Application: WO 2003IB104 20030117 (PCT/WO IB03000104)
Priority Application: EP 200275341 20020128
Designated States:
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG
SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT SE SI
SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G11B-020/00
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4022

English Abstract
A replicating plant (110) receives a master recording (102) comprising a number of tracks from a content producer (101). The audio fingerprints of the tracks are computed and submitted to a verifying server (120). The server performs a database lookup to identify the tracks based on the submitted fingerprints. The list with identified tracks is then compared

against authoritative lists (103) submitted by content providers (101).

If a match is found, the verifying server (120) transmits a positive response to the replicating plant (110), otherwise it transmits a negative response. Preferably the response is digitally signed to allow the replicating plant (110) to verify its authenticity. The response may include the matching authoritative track list, so that the replicating plant (110) also obtains accurate metadata for the tracks. This metadata could then be included in the replicated copies (112).

French Abstract

L'invention concerne une installation de replication (110) recevant un enregistrement principal (102) comprenant un certain nombre de pistes, a partir d'un dispositif de production de contenu (101). Les empreintes audio des pistes sont calculees et soumises a un serveur de verification (120). Le serveur effectue une verification de base de donnees pour identifier les pistes en fonction des empreintes soumises. La liste contenant des pistes identifiees est ensuite comparee a des listes faisant autorite (103), soumises par des fournisseurs de contenu (101).

Si une correspondance est trouvee, le serveur de verification (120) transmet une reponse positive a l'installation de replication (110), sinon il transmet une reponse negative. De preference, la reponse est numeriquement signee pour permettre a l'installation de replication (110) d'en verifier l'authenticite. La reponse peut comprendre la liste de pistes faisant autorite correspondante de sorte que l'installation de replication (110) obtienne egalement des metadonnees precises pour les pistes. Ces metadonnees peuvent ensuite etre comprises dans des copies repliquees (112).

Legal Status (Type, Date, Text)
Publication 20030807 A2 Without international search report and to be republished upon receipt of that report.
Search Rpt 20040304 Late publication of international search report
Republication 20040304 A3 With international search report.

Fulltext Availability:
Detailed Description

Detailed Description
... guaranteed to be unique, so preferably a really globally unique value is used.

A second **table** is then set up with entries comprising for each multimedia object the fingerprints and the...fingerprints in the second

table, obtains an identifier and matches the identifier against the first
table to obtain the metadata. If the **database** 211 is an SQL **database**
, the **two** **tables** could be **joined** on the identifier.

The **DBMS** backend module 203 feeds the results of the query to the response module 204, which **determines** whether to give a positive or negative response to the communication module 1 14 ...master recording
102. The content producer 101 transmits this authoritative track list 103
to the **verifying** server 120, where it is received and made accessible
to the response module 204. Additionally...

29/5,K/15 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00982585 **Image available**

A METHOD AND SYSTEM FOR ADDING REAL-TIME, INTERACTIVE FUNCTIONALITY TO A WEB-PAGE

PROCEDE ET SYSTEME D'AJOUT DE FONCTIONNALITE INTERACTIVE EN TEMPS REEL A UNE PAGE WEB

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Patent and Priority Information (Country, Number, Date):
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Application: WO 2002US23639 20020725 (PCT/WO US0223639)
Priority Application: US 2001916543 20010727
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-015/16
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 8838

English Abstract
A method and system for adding real-time, interactive functionality to a web-page, e.g., a HTML document, that enables interaction between and

among a plurality of users viewing the same web-page. Software stored on and operable in connection with a server computer (40) comprises a server component (400) and a client component (300). The server component provides general server functionality and proxy server functionality on the server. The client component is downloadable by the server for storage on and operation in connection with one or more client computer (10, 20), and adds real-time, interactive functionality to a web-page.

French Abstract
L'invention concerne un procede et un systeme d'ajout d'une fonctionnalite interactive en temps reel a une page Web, par exemple, un document HTML, qui assurent l'interaction entre une pluralite d'utilisateurs visualisant la meme page Web. Un logiciel enregistre dans un ordinateur serveur (40) et exploitable a partir de ce dernier comprend une composante serveur (400) et une composante client (300). La composante serveur assure une fonctionnalite serveur generale et une fonctionnalite serveur mandataire dans le serveur. La composante client peut etre telechargee par le serveur en vue de son stockage et son exploitation par un ou plusieurs ordinateurs client (10, 20), et permet d'ajouter une fonctionnalite interactive en temps reel a la page Web.

Legal Status (Type, Date, Text)
Publication 20030213 A1 With international search report.
Publication 20030213 A1 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.
Examination 20030619 Request for preliminary examination prior to end of 19th month from priority date
Correction 20030814 Corrected version of Pamphlet: pages 1/6-6/6, drawings, replaced by new pages 1/6-6/6
Republication 20030814 A1 With international search report.

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... other user-identifying parameters. That data is stored by the server in a user account **database** which is used to authenticate that user during attempts by that user to **join** or initiate a session. When a user account is established, the server transmits a data **file** (e.g., a cookie) to the user's computer for storage thereon. The cookie includes
...whenauserjoinsasession, the cookie is transmitted to the server 40

and
the user is authorized to **join** the session (if appropriate). The general server functionality also monitors each user's activity during...

Claim
... method as recited by claim 1, wherein said step (c) comprises parsing
the webpage to **determine** an appropriate location to add the script code.

4 A method as recited by claim...A method as recited by claim 1, wherein
said step (a) comprises:
receiving a data **file** from the user including user account data and web
page identification data; and
determining if...

...8 A method as recited by claim 2, wherein said receiving step comprises:
receiving a **data file** from the another user including user account
data ...a data storage device of the second user's computer, the Internet browser enabling the **second** user to cause the computer to establish a connection to the Internet and to request...software on said
server for transmitting the requested web-page and script code to the **second** user's computer, the script code enabling the first user and the
second user to interact with each other while viewing the web-page.

18 A system as...16, wherein said processor is further operable in connection with the software for receiving a **data file** from the first
user including first user account data and web-page identification data,
and...17, wherein said processor is further operable in connection with
the software for receiving a **data file** from the **second** user including second user account data and web-page identification data, -wherein said processor is further operable in connection with the software for **determining** if the second user is authorized to access the
requested web-page.

22 A system...

29/5,K/16 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00968923 **Image available**
SYSTEM AND METHOD FOR DATA STORAGE, CONTROL AND ACCESS
SYSTEME ET PROCEDE DE STOCKAGE, DE CONTROLE ET DE CONSULTATION DE DONNEES

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,
Patent Applicant/Inventor:
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Legal Representative:
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1960, New Haven, CT 06509-1960, US,
Patent and Priority Information (Country, Number, Date):
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Application: WO 2002US18347 20020611 (PCT/WO US0218347)
Priority Application: US 2001298443 20010615
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AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-017/60
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 24387

English Abstract
The present disclosure relates to a system and method for improved data
(or information) storage, control and/or access (fig. 1). A

system/method
according to the disclosure facilitates enhanced versioning of data files
(fig. 3), data records (fig. 5) information (fig. 6) and the like, such
that subsequent data file and/or record retrieval is consistent with and
reflective of ancillary conditions at the time of the data file and/or
record input (fig. 7). The system/method provides enhanced
data/information storage, control and access that have applicability in a
variety of fields (fig. 5), including applications related to health
care, mental health care, financial and accounting systems, industrial
control systems, and the like (fig 7L).

French Abstract
Cette invention concerne un systeme et un procede ameliorant le stockage,
le controle et/ou la consultation de donnees (ou informations). Selon
cette invention, ce systeme/procede permet de simplifier un controle de
versions renforce de fichiers de donnees, de fiches, d'informations ou
analogue, de maniere qu'une extraction ulterieure de fichiers de donnees
et/ou de fiches soit coherente et reflete des conditions auxiliaires au
moment de l'entree du fichier de donnees et/ou de la fiche. Ce
systeme/procede permet un renforcement du stockage, du controle et de la
consultation de donnees/d'informations pouvant etre appliquees dans une
multitude de domaines, y compris dans des applications relatives aux
soins de sante, aux soins de sante mentale, aux systemes financiers et
comptables, aux systemes de controle industriels et analogue.

Legal Status (Type, Date, Text)
Publication 20021227 A2 Without international search report and to be republished upon receipt of that report.
Search Rpt 20030912 Late publication of international search report
Republication 20030912 A3 With international search report.
Examination 20031023 Request for preliminary examination prior to end of
19th month from priority date

Fulltext Availability:
Detailed Description

Detailed Description
... advance the art, and reflect a deeper analysis and understanding of
the practical implications of **data / file** storage, control and access.

For example, it is often equally important in assessing a **data / file** record to understand the nature of the data/information that was omitted and/or deleted...

...by one or more transactions as it is to understand the datafinformation present in the **data / file** record. It is also ...points, it is assumed that datafinformation is provided to the user (as consumer) by the **data / file** storage system as retrievals (e.g. on-screen or printed reports, or transmitted data) and...of "views" provides an API (programming interface) for performing retrieval and modification operations on the **database tables** comprising an element XXX, as suminarized in the following columnar presentation.

xxx A view **joining** the invariant XXX-FIX and mutable XXX-VAR records, with triggers to divvy up the fields to their respective **tables** and perform integrity checking
XXX
ASOF A view on XXX providing at most one record...which meets XXX-specific aging criteria. The set of records is generated via a cartesian **join** with all possible VERS-IDS, which is then collapsed by an externally
35
provided clause...used, providing a view of the baseline as of the current time.

Turning to preferred **database** scherna(s) according to the present disclosure, for an ASOF view, where a Version's...

...utilized to provide an As Of version ID, the underlying view typically performs a Cartesian **join** of every possible VersId with the latest version of the Statement as/of that Version...

29/5,K/20 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00470868
PLATFORM-INDEPENDENT UNIVERSAL DATA ACCESS SYSTEM AND METHOD IN A CLIENT-SERVER ENVIRONMENT
SYSTEME ET PROCEDE UNIVERSELS D'ACCES AUX DONNEES, INDEPENDANTS DE LA PLATE-FORME, DANS UN ENVIRONNEMENT CLIENT-SERVEUR

Patent Applicant/Assignee:
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LUSSIER Mark J,
STEVENS Andrew G,
Inventor(s):
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LUSSIER Mark J,
STEVENS Andrew G,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9901802 A2 19990114
Application: WO 98US13794 19980701 (PCT/WO US9813794)
Priority Application: US 97886186 19970701
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM
GW HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW
MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK
ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN
TD TG
Main International Patent Class (v7): G06F-013/14
International Patent Class (v7): H04L-009/00
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 19981

English Abstract
A data access system (100) and method provides platform independent access from a client module (101) to a variety of data sources (108) stored in a variety of data formats on a variety of computer systems, including database sources and electronic mail sources (112). The system includes a desktop client module (104) that is a Java applet (105) that runs within a Java-compliant browser (104) located on a client computer

(101). The desktop client module provides access to any one of a plurality of data sources, each represented as a book (200) on the client desktop. Access of the data associated with a book is implemented using a data access service application running on a server computer (102) in communication with the desktop client. The data access service application (106) includes a data source interface (107) that stores metadata associated with each book. Accessed data is presented in a customized viewing format as (127) as specified by various views (204) and forms associated with each book.

French Abstract
L'invention concerne un systeme et un procede d'acces aux donnees qui permet d'avoir acces, independant de la plate-forme, depuis un module client, a diverses sources de donnees stockees sous diverses structures de donnees sur divers systemes informatiques, y compris des sources de bases de donnees et des sources de courrier electronique. Ce systeme comprend un module bureau client qui est une mini-application Java tournant sur un navigateur compatible Java, situe sur un ordinateur client. Le module bureau client permet d'acceder a n'importe quelle source de donnees parmi plusieurs, chacune etant representee sous la forme d'un livre sur le bureau client. L'acces aux donnees associees a un livre se fait au moyen d'une application de services d'acces aux donnees tournant sur un ordinateur serveur en communication avec le bureau client. L'application de services d'acces aux donnees comprend une interface source de donnees qui stocke les metadonnees associees a chaque livre. Les donnees auxquelles on accede sont presentees dans un format d'affichage personnalise, tel que specifie par divers affichages et diverses formes associees a chaque livre.

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... multiple data sources reside on a single computer.

Data service application 106 additionally includes Java **database** connectivity module (JDBC) 110. JDBC 110 is a conventional application - 1 1 programming interface for...

...a table identifier array 202, a join condition 203, and a plurality of views 204.

Database identifier 201 stores information identifying a particular

database on a particular server computer. **Database** identifier 201 is
used to construct an
address to communicate with the **database** corresponding to the **database**

identifier. Table identifier 201 is an array of table identifiers that
specifies one or more tables in the. **database** . **join** condition 203
specifies a particular **join** function to be used to combine the tables
listed by table identifier 201. Views 204 each specify a custom view of
the **joined** data. View 204 includes a search condition 205, a selection
(list) of attributes 206, and...

...provides information that is used by service application 106 to
construct a request for a **database** search result. Service application
106 processes the request, queries the selected **database** and returns
the result set in a dynamically created object.

Figure 3 is a diagram...

...number and home number. Each person
object 301 is generated as a result of a **database** query constructed
using a JDBC SQL call 303. The JDBC call 303 performs a table **join** of
the person table 304 and the phone number table 305 associated with the
database identified bv book 300. The table **join** is perform using the
person I.D. as the sole **join** column. Each returned person object is
presented within a view as a row.

Further customization...

Claim
... method of claim 10 further comprising:
providing a user interface for identifying a data source;
determining the physical storage information associated with the
identified data source;
generating metadata from the **determined** physical storage
information; and
- 100 storing the metadata.

15 The method of claim 14 wherein the identified data source identifies
data stored in first and **second** **tables** in a **database** and includes a
table **join** condition.

16 The method of claim 14 wherein the identified data source is an
electronic...

29/5,K/22 (Item 14 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00254747
METHOD AND APPARATUS FOR DISPLAYING AND UPDATING STRUCTURED INFORMATION
PROCEDE ET APPAREIL D'AFFICHAGE ET DE MISE A JOUR D'INFORMATIONS STRUCTUREES

Patent Applicant/Assignee:
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RASSMAN William R,
Inventor(s):
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RASSMAN William R,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9402903 A1 19940203
Application: WO 93US7223 19930726 (PCT/WO US9307223)
Priority Application: US 92918604 19920724
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AU CA JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Main International Patent Class (v7): G06F-015/40
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 10702

English Abstract
A method and apparatus for displaying structured information such as information that is stored in plural interrelated tables (110, 120, 130, 140, 150, 160, 170, 180). A structural map (13) that describes that pathing between the interrelated tables (110, 120, 130, 140, 150, 160, 170, 180, 190) is defined. The structural map (13) may be a computer representation of a multiple index multipartite graph which defines that structure of the structured information (12). A display map (14) is defined for describing how to display the information. The display map (14) describes where the information from the tables is to be displayed, and where, rather than displaying information from the tables, information concerning the structural interrelationship of the tables (110, 120, 130, 140, 150, 160, 170, 180, 190) is to be displayed. In response to a query based interaction with an operator (20), either information from the plural tables is displayed or an indication of further structure is displayed. When information is displayed it is filtered by the previous level of structure indexed by the information targeted by the operator (20) such that only information of concern to the operator's query is displayed. The display may be in the form of

pop-down windows (17) and those windows may contain mixed data and structural information (16a, 16b), or the display may be in the form of graphs having nodes and paths (13, 14). Displayed information may be modified and the modifications are traced through the structured information (12) so as to allow dynamic display of modified data (15).

French Abstract
Un procede et un appareil permettent d'afficher des informations structurees telles que celles stockees dans plusieurs tables liees entre elles (110, 120, 130, 140, 150, 160, 170, 180). On definit une carte structurelle (13) qui decrit les chemins reliant ces tables (110, 120, 130, 140, 150, 160, 170, 180, 190) et qui peut etre une representation informatique d'un graphique multipartite a index multiples definissant cette structure des informations structurees (12). On definit une carte d'affichage (14) qui indique comment afficher les informations et decrit l'endroit ou les informations provenant des tableaux doivent etre affichees et celui ou il s'agit au contraire d'afficher des informations concernant les relations structurelles des tables (110, 120, 130, 140, 150, 160, 170, 180, 190). En reponse a une interaction basee sur une requete avec un utilisateur (20), on voit s'afficher soit des informations provenant des tables soit une indication complementaire concernant leur structure. Si des informations sont affichees, elles sont filtrees par le niveau precedent de structure indexee selon les informations souhaitees par l'utilisateur (20) de facon que seules sont affichees celles repondant a sa requete. Cet affichage peut prendre la forme de fenetres a incrustation (17) pouvant contenir un melange de donnees et d'informations structurelles (16a, 16b) ou bien il peut prendre celle de graphiques dotes de noeuds et de chemins (13, 14). On peut modifier les informations affichees et ces modifications apparaissent dans les informations structurees (12), ce qui permet un affichage dynamique des donnees modifiees (15).

Fulltext Availability:
Detailed Description

Detailed Description
... of interrelationships in the structured information increases, the complexity of the structure increases and many **tables** (or partitions) may be used to store the information.

For example, in the situation where...
...the-tables is only a suoset of the

total amount of information in the relational **database** , In the above example, a first table in the relational **database** might be a student table consisting of student name, identification number, dormitory assignments, etc.; and a second table in the relational **database** might be a course table consisting of course name, prerequisites, class time, place, etc, The...

...third, intermediary table is created which cross-references students to courses, This, then, provides two **join** fields, the student and the course, which together give the cross-reference of student-to-course.

The individual tables in a relational **database** are normally linked with one another through " **join** fields". In the above example, the **join** fields were the student identification number and the course number, Such a field links or **joins** the tables in the **database** . To correlate the information in a first table with the information in a second table, first the **join** field is extracted from the first table, Next, the **join** field is indexed to the second table by which it can be determined which entries in the two tables are associated, Usually, the indexing is via an intermediary, cross-reference, **table** (e.g,, in "many-to-manyll situations) but where an entry is **joined** directly into a **table** (e,g,, a "many-to-onell situation) there is usually no need for an intermediate **table** .

Relational **databases** are effective to break complexly structured information into comprehensible and manageable units. Nevertheless, as the of information is normally available in a separate **table** in a relational **database** , but owing to the complexity of the interrelationships between those **tables** , it has not heretofore been practical to correlate that information and to display it in useable form. Or to consider the problem of adding or deleting a course. The course **joins** with the teachers giving the course, the usage of facilities, books, students taking courses, schedules...such as by changing, adding or deleting information, The appropriate one of the plural interrelated **tables** is updated based on the edit, In the case of deletion, dangling **joins** are deleted, preferably under operator supervision; in the case of additions, new **joins** are created.

For example, a classical **database** problem concerns finding and deleting or moving data that is very active or very inactive, If a **database** /graph

includes historical footprints of usage (like timestamping), then the invention can filter and order...as a supervisory terminal having special privileges with respect to altering the contents of the **tables** in memory 12, In such a case, others of the plural terminals would only be...stored on disks 16a and 16b. Typically, each of the tables have at least one **join** field which links that table to at least one other table in memory 12, Usually, each table further includes at least one **join** field which allows it to be linked with other tables in the **database** . The two **join** fields may be the same field in which case the table is accessed by the...

...which it accesses other tables.

It is possible for there to be more than one **join** field in each table so as to permit a table to be linked in different ways with different tables, and it is also possible for a table to be **joined** to several other tables, Various **join** configurations yield many different structural possibilities. For example, many tables can **join** into one table ("many-to-one"); one table can include many **join** fields that branch out to many .other tables ("one-to-many"); or many **tables** can join into one **table** which in turn joins into many other **tables** ("many-to-many"), All these structural possibilities create a variety of paths and multidimensionalities in the multipartite graph represented by the **tables** .

The stru ctural map stored in memory 13 is dependent upon both the structure of the interrelationships in the **tables** and the organization of information in the individual **tables** , The structural maps may be derived automatically by the CPU but typically are prepared manually based on the overall structure and interrelationship of the **tables** , The display maps stored in memory 14 define the information that is to be displayed...the difference in the windows definition from - 34 Figure 7, the pathing through the information **tables** is different than that in Figure 11 and therefore results in different information in the displays.

For example, as shown in Figure 14, which shows pathing through the **tables** , the doctors from the md master **table** 110 that are displayed in Figure 13 are filtered through the targeted department from the department **table** 150 and the targeted times group from the times group **table** 120, Because these

filters are ordered differently than in Figure 12, however, the ultimate information...

...been utilized to present structured information to the operator, But a graphic representation of the **database** is also usable for viewing structure, adding paths, deleting paths, and deleting data and associated...information needed to display and manipulate the graph itself, The TableEquivDef sections show groups of **database** **table** names and index names that are equivalent, i,e,, that are **joins** , This implicitly indicates those **tables** that are **joined** together. The ScreenNodeDef section shows information about the root **database** **tables** , i.e., those **tables** which have partition nodes as indices.

The information includes a screen Title in quotation marks...

...description of how the node values should be shown on the screen, For example, the **table** mdmaster is such a **table** ; it will be referred to on the screen as "doctors", The index which defines nodes is mdnum in the mdmaster **table** ; and the screen representation of each node value will be one character from md-Fname...

******APPLICANT******

35/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01607295
SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT DATABASE ACCELERATION
SYSTEME ET PROCEDE D'ACCELERATION DE BASES DE DONNEES TRANSPARENTE VIS A VIS DU RESEAU ET DE L'APPLICATION
PATENT ASSIGNEE:
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92121-2741, (US), (Applicant designated States: all)
INVENTOR:
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PATENT (CC, No, Kind, Date):
WO 2003042833 030522
APPLICATION (CC, No, Date): EP 2002803165 021021; WO 2002US33806 021021
PRIORITY (CC, No, Date): US 39465 011109
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR;
IE; IT; LI; LU; MC; NL; PT; SE; SK; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS (V7): G06F-012/00; G06F-015/16; G06F-015/04
LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 030716 A1 International application. (Art. 158(1))
Application: 030716 A1 International application entering European phase
Application: 041222 A1 International application. (Art. 158(1))
Appl Changed: 041222 A1 International application not entering European phase
Withdrawal: 041222 A1 Date application deemed withdrawn: 20040610
LANGUAGE (Publication,Procedural,Application): English; English; English

INVENTOR:
JARDIN , Cary ,

******APPLICANT******

35/5,K/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01487227

LINK-LOCK DEVICE AND METHOD OF MONITORING AND CONTROLLING A LINK FOR FAILURES AND INTRUSIONS

VERBINDUNGSPERREINRICHTUNG UND VERFAHREN ZUR UBERWACHUNG UND STEUERUNG EINER VERBINDUNG AUF FEHLER UND UNBEFUGTEN ZUGGRIFF

DISPOSITIF DE VERROUILLAGE DE LIAISON ET PROCEDE DE SURVEILLANCE ET DE COMMANDE DE LIAISON VISANT A DETECTER DEFAILLANCES ET INTRUSIONS

PATENT ASSIGNEE:

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INVENTOR:

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PATENT (CC, No, Kind, Date): EP 1336286 A2 030820 (Basic)
WO 2002043342 020530

APPLICATION (CC, No, Date): EP 2001995179 011120; WO 2001US43615 011120

PRIORITY (CC, No, Date): US 721785 001122

DESIGNATED STATES: DE; FR; GB; NL

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS (V7): H04L-029/06

NOTE:

No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	021106 A2	International application. (Art. 158(1))
Application:	021106 A2	International application entering European phase
Application:	030820 A2	Published application without search report
Examination:	030820 A2	Date of request for examination: 20030522
Change:	040526 A2	Designated contracting states changed 20040408

LANGUAGE (Publication,Procedural,Application): English; English; English

INVENTOR:

JARDIN , Cary , A...

******APPLICANT******

35/5,K/3 (Item 3 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01465775

SPEED SENSITIVE CONTENT DELIVERY IN A CLIENT-SERVER NETWORK

GESCHWINDIGKEITSABHANGIGE INHALTSLIEFERUNG IN EINEM CLIENT-SERVER NETZWERK

LIVRAISON ACCELEREE DE CONTENU SENSIBLE DANS UN RESEAU SERVEUR-CLIENT

PATENT ASSIGNEE:
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PATENT (CC, No, Kind, Date): EP 1325604 A2 030709 (Basic)
WO 2002028053 020404
APPLICATION (CC, No, Date): EP 2001975474 010925; WO 2001US30241 010925
PRIORITY (CC, No, Date): US 675818 000928
DESIGNATED STATES: DE; FR; GB
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS (V7): H04L-029/12
NOTE:
No A-document published by EPO
LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 021016 A2 International application. (Art. 158(1))
Application: 021016 A2 International application entering European phase
Application: 030709 A2 Published application without search report
Examination: 030709 A2 Date of request for examination: 20030423
Change: 040512 A2 Designated contracting states changed 20040325
Change: 060816 A2 Title of invention (German) changed: 20060816
Change: 060816 A2 Title of invention (English) changed: 20060816
Change: 060816 A2 Title of invention (French) changed: 20060816
LANGUAGE (Publication,Procedural,Application): English; English; English

INVENTOR:
JARDIN , Cary , A...

******APPLICANT******

35/5,K/4 (Item 4 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01252317

METHOD AND SYSTEM FOR MANAGING SECURE CLIENT-SERVER TRANSACTIONS

VERFAHREN UND VORRICHTUNG ZUR VERWALTUNG VON GESICHERTEN CLIENT-SERVER TRANSAKTIONEN

PROCEDE ET SYSTEME PERMETTANT D'EFFECTUER DES TRANSACTIONS SECURISEES CLIENT-SERVEUR

PATENT ASSIGNEE:

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PATENT (CC, No, Kind, Date): EP 1116367 A2 010718 (Basic)
WO 200102935 010111

APPLICATION (CC, No, Date): EP 2000939295 000511; WO 2000US13047 000511

PRIORITY (CC, No, Date): US 345575 990630

DESIGNATED STATES: DE; FR; GB; IT; NL

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS (V7): H04L-029/06

NOTE:

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Application:	010307	A2 International application entering European phase
Application:	010718	A2 Published application without search report
Examination:	010718	A2 Date of request for examination: 20010516
Change:	040526	A2 Designated contracting states changed 20040408
Change:	060913	A2 Title of invention (German) changed: 20060913
Change:	060913	A2 Title of invention (English) changed: 20060913
Change:	060913	A2 Title of invention (French) changed: 20060913

LANGUAGE (Publication,Procedural,Application): English; English; English

INVENTOR:

JARDIN , Cary , A...

******APPLICANT******

35/5,K/5 (Item 5 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01099344

SYSTEM AND METHOD FOR MANAGING CLIENT REQUESTS IN CLIENT-SERVER NETWORKS

SYSTEM UND VERFAHREN ZUM VERWALTEN VON ANFORDERUNGEN DER BENUTZER IN BENUTZER-ANBIETER-NETZE

SYSTEME ET PROCEDE DE GESTION DE DEMANDES CLIENT DANS DES RESEAUX CLIENT/SERVEUR

PATENT ASSIGNEE:
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(Applicant designated States: all)

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PATENT (CC, No, Kind, Date): EP 1099329 A1 010516 (Basic)
WO 9952254 991014

APPLICATION (CC, No, Date): EP 99912946 990330; WO 99US6911 990330

PRIORITY (CC, No, Date): US 54304 980402

DESIGNATED STATES: DE; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS (V7): H04L-029/06

CITED PATENTS (WO A): XP 507856

CITED REFERENCES (WO A):
ADLER R M: "DISTRIBUTED COORDINATION MODELS FOR CLIENT/SERVER COMPUTING"
COMPUTER, vol. 28, no. 4, 1 April 1995 (1995-04-01), pages 14-22, XP000507856 ISSN: 0018-9162;

NOTE:
No A-document published by EPO

LEGAL STATUS (Type, Pub Date, Kind, Text):

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Application:	991215	A1	International application. (Art. 158(1))
Change:	060322	A1	Title of invention (French) changed: 20060322
Change:	060322	A1	Title of invention (English) changed: 20060322
Change:	060322	A1	Title of invention (German) changed: 20060322
Examination:	010516	A1	Date of request for examination: 20010226
Examination:	030820	A1	Date of dispatch of the first examination report: 20030703
Application:	991215	A1	International application entering European phase

LANGUAGE (Publication,Procedural,Application): English; English; English

INVENTOR:
JARDIN , Cary , A...

******APPLICANT******

35/5,K/6 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT
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01012900 **Image available**

SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT DATABASE ACCELERATION

SYSTEME ET PROCEDE D'ACCELERATION DE BASES DE DONNEES TRANSPARENTE VIS A VIS DU RESEAU ET DE L'APPLICATION

Patent Applicant/Assignee:
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, US (Residence), US (Nationality)
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Legal Representative:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200342833 A1 20030522 (WO 0342833)
Application: WO 2002US33806 20021021 (PCT/WO US0233806)
Priority Application: US 200139465 20011109
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class (v7): G06F-012/00
International Patent Class (v7): G06F-015/16; G06F-015/04
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4311

English Abstract
A method of improving network database performance is disclosed (Fig. 1).
The method comprises steps of determining whether a first network packet

involves a database transaction (14) and then intercepting the packet upon a positive determination. The packet is then examined to determine the nature of the database transaction (18). Depending on the nature of the database transaction, a database acceleration technique is selectively implemented (22).

French Abstract
L'invention concerne un procede d'amelioration des performances d'une base de donnees en reseau (Fig. 1). Ledit procede comprend les etapes suivantes : determiner si un premier paquet de reseau implique une transaction (14) de base de donnees, et intercepter le paquet lors d'une determination positive. Ledit paquet est alors examine aux fins de la determination de la nature de la transaction (18) de base de donnees. Selon la nature de ladite transaction de base de donnees, une technique d'acceleration de base de donnee est mise en oeuvre (22) de maniere selective.

Legal Status (Type, Date, Text)
Publication 20030522 A1 With international search report.

Inventor(s):
JARDIN Cary ...

******APPLICANT******

35/5,K/7 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT
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00909273 **Image available**

LINK-LOCK DEVICE AND METHOD OF MONITORING AND CONTROLLING A LINK FOR FAILURES AND INTRUSIONS

DISPOSITIF DE VERROUILLAGE DE LIAISON ET PROCEDE DE SURVEILLANCE ET DE COMMANDE DE LIAISON VISANT A DETECTER DEFAILLANCES ET INTRUSIONS

Patent Applicant/Assignee:
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US, US (Residence), US (Nationality)

Inventor(s):
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Patent and Priority Information (Country, Number, Date):
Patent: WO 200243342 A2-A3 20020530 (WO 0243342)
Application: WO 2001US43615 20011120 (PCT/WO US0143615)
Priority Application: US 2000721785 20001122

Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
BR CN IN SG
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Main International Patent Class (v7): H04L-029/06
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 1705

English Abstract
A link lock system for a network is disclosed. The system includes a computer, a network interface device, a bus monitor, and a security switch. The network interface device provides the computer with access to the network. The bus monitor monitors a link between the network interface device and the computer. The bus monitor reports detected failures or intrusions. The security switch switches the link from a non-secured mode to a secured mode when a report of said detected failures or intrusions is received from the bus monitor.

French Abstract
L'invention concerne un systeme de verrouillage de liaison pour reseau.
Le systeme comprend un ordinateur, un dispositif d'interface de

reseau,
un moniteur de bus et un commutateur de securite. Le dispositif d'interface de reseau permet a l'ordinateur d'acceder au reseau. Le moniteur de bus surveille une liaison entre le dispositif d'interface de reseau et l'ordinateur. Le moniteur de bus signale defaillances ou intrusions. Le commutateur de securite fait passer la liaison d'un mode non securise a un mode securise lors de la reception, par le moniteur de bus, d'un rapport signalant une defaillance ou une intrusion detectee.

Legal Status (Type, Date, Text)

Publication	20020530	A2 Without international search report and to be republished upon receipt of that report.
Examination	20021010	Request for preliminary examination prior to end of 19th month from priority date
Search Rpt	20021128	Late publication of international search report
Republication	20021128	A3 With international search report.
Republication	20021128	A3 Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Inventor(s):
JARDIN Cary A ...

******APPLICANT******

35/5,K/8 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00894508 **Image available**

SPEED SENSITIVE CONTENT DELIVERY IN A CLIENT-SERVER NETWORK

LIVRAISON ACCELEREE DE CONTENU SENSIBLE DANS UN RESEAU SERVEUR-CLIENT

Patent Applicant/Assignee:
INTEL CORPORATION, 2200 Mission College Boulevard, Santa Clara, CA 95052,
US, US (Residence), US (Nationality)

Inventor(s):
JARDIN Cary A , 12662 Sabre View Cove, San Diego, CA 92128, US,
VARSANYI Eric, 4100 Ives Lane North, Plymouth, MN 55441, US,
DUCLOS Phil J, 12968 Hillcrest Drive, Longmont, CO 80504, US,
PADUA Vincent M, 13912 Capewood Lane, #296, San Diego, CA 92128, US,
TRESCOTT Robert C Jr, 18771-63 Caminito Pasedo, San Diego, CA 92128, US,

Legal Representative:
HARRIS Scott C (agent), Fish & Richardson P.C., Suite 500, 4350 La Jolla
Village Drive, San Diego, CA 92122, US,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200228053 A2-A3 20020404 (WO 0228053)
Application: WO 2001US30241 20010925 (PCT/WO US0130241)
Priority Application: US 2000675818 20000928

Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
BR CN GB IN SG
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Main International Patent Class (v7): H04L-029/12
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 2514

English Abstract
The response time from a client on a network is measured and a destination address is selected based on the measured response time. The client requests an address from the network. The network may be a local network or a wide area network such as the Internet. The response time of the client is measured to determine the optimum speed at which the client may operate. The measured response time is communicated to the server, where a destination address is selected based on the requested address and the measured response time. The client may then be connected to

the
destination address.
French Abstract
Selon l'invention, on mesure le temps de reponse d'un client sur un reseau et on selectionne une adresse de destination sur la base du temps de reponse mesure. Le client execute une demande d'adresse au reseau. Le reseau peut etre local ou de longue portee tel que l'Internet. Le temps de reponse du client est mesure afin de determiner la vitesse optimale a laquelle le client peut operer. Le temps de reponse mesure est communique au serveur sur lequel une adresse de destination est selectionnee en fonction de l'adresse demandee et du temps de reponse mesure. le client peut alors etre connecte a l'adresse de destination.

Legal Status (Type, Date, Text)

Publication	20020404	A2 Without international search report and to be republished upon receipt of that report.
Search Rpt	20030103	Late publication of international search report
Republication	20030103	A3 With international search report.
Examination	20030206	Request for preliminary examination prior to end of 19th month from priority date

Inventor(s):
JARDIN Cary A ...

******APPLICANT******

35/5,K/9 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00769413 **Image available**

METHOD AND SYSTEM FOR MANAGING SECURE CLIENT-SERVER TRANSACTIONS

PROCEDE ET SYSTEME PERMETTANT D'EFFECTUER DES TRANSACTIONS SECURISEES

CLIENT-SERVEUR

Patent Applicant/Assignee:
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Inventor(s):
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Legal Representative:
ISRAELSEN Ned A (agent), 16th Floor, 620 Newport Center Drive, Newport
Beach, CA 92660, US,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200102935 A2-A3 20010111 (WO 0102935)
Application: WO 2000US13047 20000511 (PCT/WO US0013047)
Priority Application: US 99345575 19990630

Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY CA CH CN CR CU CZ
CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE
EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN
IS JP KE KG KP KR KR (utility model) KZ LC LK LR LS LT LU LV MA MD MG MK
MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR
TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Main International Patent Class (v7): H04L-029/06
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 5829

English Abstract
A server broker configured for use in a secure communication network, such as the Internet. The broker is configured to broker client transactions received over a secure network link, such as a secure socket
layer (SSL) link, for distribution among one or more of a plurality

of
fulfillment servers. In one embodiment, the broker establishes a non-secure link with the one or more fulfillment servers. In another embodiment, the broker establishes a secure SSL link with the one or more
fulfillment servers. The fulfillment server executes client transactions
and sends response packets for delivery to the client.

French Abstract
L'invention concerne un courtier serveur configure pour s'utiliser dans
un reseau de communication securise tel que l'Internet. Le courtier est
configure pour envoyer des transactions de clients du courtier recues dans un lien de reseau securise, tel qu'un lien de protocole SSL, a un ou
plusieurs serveurs d'execution. Dans un mode de realisation, le courtier
etablit un lien non securise avec le ou les serveurs d'execution. Dans un
autre mode de realisation, le courtier etablit un lien SSL securise avec
le ou les serveurs d'execution. Le serveur d'execution execute les transactions des clients et envoie des paquets reponse a remettre au client.

Legal Status (Type, Date, Text)
Publication 20010111 A2 Without international search report and to be republished upon receipt of that report.
Search Rpt 20010503 Late publication of international search report
Republication 20010503 A3 With international search report.
Inventor(s):
JARDIN Cary A ...

******APPLICANT******

35/5,K/10 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2006 WIPO/Thomson. All rts. reserv.

00520902 **Image available**
SYSTEM AND METHOD FOR MANAGING CLIENT REQUESTS IN CLIENT-SERVER NETWORKS
SYSTEME ET PROCEDE DE GESTION DE DEMANDES CLIENT DANS DES RESEAUX CLIENT/SERVEUR

Patent Applicant/Assignee:
IPIVOT INC,
Inventor(s):
JARDIN Cary A ,
SCHNETZLER Steven,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9952254 A1 19991014
Application: WO 99US6911 19990330 (PCT/WO US9906911)
Priority Application: US 9854304 19980402
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
CA IN JP KR AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Main International Patent Class (v7): H04L-029/06
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 6791

English Abstract
A broker for the management of client requests issued by a client computer over a client-server network. Depending on its availability of resources, the broker determines whether to respond to the client request, or hand-off the client request to another server. The broker supports a virtual connection between the client and the other server, without interfering with communication protocols or disrupting client requests. The other server fulfills client requests by operating in place of the broker. The server terminates the virtual connection when all client requests have been completely fulfilled.

French Abstract
L'invention concerne un courtier destine a gerer les demandes client delivrees par un ordinateur client sur un reseau client/serveur. En fonction de sa disponibilite de ressources, le courtier determine s'il peut repondre a la demande client ou s'il doit transferer la demande a un autre serveur. Le courtier supporte alors une connexion virtuelle entre le client et l'autre serveur, sans interferer dans les protocoles de

communication ou interrompre les demandes client. L'autre serveur execute
alors les demandes client en agissant a la place du courtier. Le serveur
termine la connexion virtuelle lorsque toutes les demandes client ont ete
totalement executees.

Inventor(s):
JARDIN Cary A ...

```
Set     Items   Description
S1    1188027   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE? OR
            REPOSITOR? OR WAREHOUSE?) OR DB OR RDB OR OODB OR ODBC OR DB-
            MS OR RDBMS
S2      55455   S1(7N)(TABLE? OR FILE? ? OR COLLECTION? OR MATRI??? OR ARR-
            AY?)
S3       1040   S2(3N)(FRACTION? OR PART??? OR PORTION? OR SUBSET? OR FRAG-
            MENT? OR PIECE? OR SEGMENT? OR DETAIL?)
S4       2101   S2:S3(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR O-
            RIGINAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S5       3872   S2:S3(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHE-
            R? OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S6       1084   S2(5N)(JOIN??? OR COMBIN? OR ADD??? ? OR MERG??? ?)
S7        100   S6(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR ORIG-
            INAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S8        137   S6(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHER? -
            OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S9   17413092   (OUTPUT? OR OUTPUT?()DIAGNOSTIC? OR READOUT? OR READ()OUT?
            ? OR RESULT?)
S10   1340202   S9(7N)(GENERAT? OR PRODUC? OR CREATE? ? OR CREATING? OR CR-
            EATION? OR PROPOGAT? OR DEVELOP? OR YIELD? OR CONSTRUCT??? ? -
            OR MAP??? ? OR MAPPING? ?)
S11    323495   S9(7N)(ORIGINAT? OR MAKE? OR MAKING? OR INITIAT? OR INTROD-
            UC? OR REPRODUCE? OR REPRODUCING? OR BUILD? OR BUILT? OR MANU-
            FACT?)
S12  27856167   DETERMIN? OR COMPAR? OR DISCERN? OR ASCERTAIN? OR ANALY? OR
             IDENT? OR CHECK? OR VERIF? OR JUDG??? ?
S13  16185533   MONITOR? OR EXAMIN? OR DETECT? OR UNCOVER? OR REVEAL? OR A-
            SSESS? OR EVALUAT? OR INSPECT? OR SCAN???
S14        10   (S12:S13 AND S4 AND S7) AND (S12:S13 AND S5 AND S8)
S15    722631   S1 AND DATABASE? ?
S16         7   S15 AND S7 AND S8
S17       181   S15 AND JOIN???(3W)(TABLE? ? OR FILE? ?)
S18        71   S17 AND DATABASE? ? AND (QUER??? ? OR DATA)(7N)(PROCESS? OR
             SORT??? ?)
S19        14   S18 AND (DETERMIN? OR COMPAR? OR CHECK? OR JUDG??? ?)
S20        57   S18 NOT S19
S21         4   S20 AND DATABASE? ? AND (QUER??? ? OR DATA)(7N)(PROCESS? OR
             SORT??? ?)/TI
S22         4   S21 NOT (S14 OR S16)
S23        53   S20 NOT (S14 OR S16 OR S19 OR S21:S22)
S24        29   RD  (unique items)
S25        27   S24 NOT (PY>2003 OR PY=2004:2006)
S26         2   S24 AND JOIN???(3N)(TABLE? ? OR FILE? ?)/TI
S27        25   S25 NOT S26
S28       355   AU=(JARDIN C? OR JARDIN, C?)
S29         3   CARY(2N)JARDIN
S30         5   S28:S29 AND (DATABASE? ? OR (QUER??? ? OR DATA)(7N)(PROCES-
            S? OR SORT??? ?))
File   2:INSPEC 1898-2006/Sep W3
         (c) 2006 Institution of Electrical Engineers
File   6:NTIS 1964-2006/Sep W3
         (c) 2006 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2006/Sep W3
         (c) 2006 Elsevier Eng.  Info. Inc.
File  34:SciSearch(R) Cited Ref Sci 1990-2006/Sep W4
         (c) 2006 The Thomson Corp
File  35:Dissertation Abs Online 1861-2006/Sep
         (c) 2006 ProQuest Info&Learning
File  56:Computer and Information Systems Abstracts 1966-2006/Sep
         (c) 2006 CSA.
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File 60:ANTE: Abstracts in New Tech & Engineer 1966-2006/Sep
      (c) 2006 CSA.
File 62:SPIN(R) 1975-2006/Sep W3
      (c) 2006 American Institute of Physics
File 65:Inside Conferences 1993-2006/Sep 29
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File 94:JICST-EPlus 1985-2006/Jun W3
      (c)2006 Japan Science and Tech Corp(JST)
File 95:TEME-Technology & Management 1989-2006/Sep W4
      (c) 2006 FIZ TECHNIK
File 99:Wilson Appl. Sci & Tech Abs 1983-2006/Jul
      (c) 2006 The HW Wilson Co.
File 111:TGG Natl.Newspaper Index(SM) 1979-2006/Sep 15
      (c) 2006 The Gale Group
File 144:Pascal 1973-2006/Sep W1
      (c) 2006 INIST/CNRS
File 239:Mathsci 1940-2006/Nov
      (c) 2006 American Mathematical Society
File 256:TecInfoSource 82-2006/Jan
      (c) 2006 Info.Sources Inc
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
      (c) 2006 The Thomson Corp
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
      (c) 2002 The Gale Group

19/7/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

09070684 INSPEC Abstract Number: C2004-10-6160-011
Title: A Bayesian decision model for cost optimal record matching
Author(s): Verykios, V.S.; Moustakides, G.V.; Elfeky, M.G.
Author Affiliation: Coll. of Inf. Studies & Technol., Drexel Univ., Philadelphia, PA, USA
Journal: VLDB Journal vol.12, no.1 p.28-40
Publisher: Springer-Verlag,
Publication Date: 2003 Country of Publication: Germany
CODEN: VLDBFR ISSN: 1066-8888
SICI: 1066-8888(2003)12:1L.28:BDMC;1-W
Material Identity Number: O851-2003-001
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: In an error-free system with perfectly clean data, the construction of a global view of the data consists of linking-in relational terms, **joining** -two or more **tables** on their key fields. Unfortunately, most of the time, these data are neither carefully controlled for quality nor necessarily defined commonly across different data sources. As a result, the creation of such a global data view resorts to approximate joins. In this paper, an optimal solution is proposed for the matching or the linking of **database** record pairs in the presence of inconsistencies, errors or missing values in the data. Existing models for record matching rely on decision rules that minimize the probability of error, that is the probability that a sample (a measurement vector) is assigned to the wrong class. In practice though, minimizing the probability of error is not the best criterion to design a decision rule because the misclassifications of different samples may have different consequences. In this paper we present a decision model that minimizes the cost of making a decision. In particular: (a) we present a decision rule: (b) we prove that this rule is optimal with respect to the cost of a decision: and (c) we compute the probabilities of the two types of errors (Type I and Type II) that incur when this rule is applied. We also present a closed form decision model for a certain class of record **comparison** pairs along with an example, and results from **comparing** the proposed cost-based model to the error-based model, for large record **comparison** spaces. (26 Refs)
Subfile: C
Copyright 2004, IEE

19/7/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
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08947140 INSPEC Abstract Number: C2004-06-6160D-012
Title: Automating layout of relational databases
Author(s): Sanjay Agrawal; Surajit Chaudhuri; Abhinandan Das; Vivek Narasayya
Author Affiliation: Microsoft Res., USA
Conference Title: Proceedings 19th International Conference on Data Engineering (Cat. No.03CH37405) p.607-18
Editor(s): Dayal, U.; Ramamritham, K.; Vijayaraman, T.M.
Publisher: IEEE, Piscataway, NJ, USA
Publication Date: 2003 Country of Publication: USA xviii+879 pp.
ISBN: 0 7803 7665 X Material Identity Number: XX-2003-03324
U.S. Copyright Clearance Center Code: 0-7803-7665-X/03/$17.00
Conference Title: Proceedings 19th International Conference on Data Engineering
Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Data Eng
Conference Date: 5-8 March 2003 Conference Location: Bangalore, India
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Experimental (X)
Abstract: The choice of **database** layout, i.e., how **database** objects such as tables and indexes are assigned to disk drives can significantly impact the I/O performance of the system. Today, DBAs typically rely on fully striping objects across all available disk drives as the basic mechanism for optimizing I/O performance. While full striping maximizes I/O parallelism, when query execution involves coaccess of two or more large objects, e.g., a merge **join** of two **tables** , the above strategy may be suboptimal due to the increased number of random I/O accesses on each disk drive. Here, we propose a framework for automating the choice of **database** layout for a given **database** that also takes into account the effects of coaccessed objects in the workload faced by the system. We formulate the above as an optimization problem and present an efficient solution to the problem that judiciously takes into account the trade-off between I/O parallelism and random I/O accesses. Our experiments on Microsoft SQL server show the superior I/O performance of our techniques **compared** to the traditional approach of fully striping each **database** object across all disk drives. (18 Refs)
Subfile: C
Copyright 2004, IEE

19/7/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC
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07604969 INSPEC Abstract Number: C2000-07-6160S-013
Title: Parallel spatial join **algorithms using grid** files
Author(s): Jin-Deog Kim; Bong-Hee Hong
Author Affiliation: Group Dept. of Info-Commun., Pusan Info-Tech. Coll., South Korea
Conference Title: Proceedings 1999 International Symposium on Database Applications in Non-Traditional Environments (DANTE'99) (Cat. No.PR00496) p.226-34
Editor(s): Kambayashi, Y.; Takakura, H.
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 2000 Country of Publication: USA xvi+481 pp.
ISBN: 0 7695 0496 5 Material Identity Number: XX-2000-01043
U.S. Copyright Clearance Center Code: 0 7695 0496 5/2000/$10.00
Conference Title: Proceedings of 1999 International Symposium on Database Applications in Non-Traditional Environments (DANTE'99)
Conference Sponsor: Grant-in-Aid for Sci. Res. Priority Areas (A); `Adv. Database Syst. Integration of Media & User Environ.'; Kyoto Univ.; Inf. Process. Soc. Japan; ACM Japan; ACM SIGMOD Japan
Conference Date: 28-30 Nov. 1999 Conference Location: Kyoto, Japan
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: The most costly spatial operation in spatial **databases** is a spatial join which combines objects from two data sets based on spatial predicates such as intersects or contains. Even if the execution time of sequential spatial join processing has improved over the last few years, the response time is far from meeting the requirements of interactive users. In this paper, we have designed two kinds of parallel spatial join algorithms based on grid files: a parallel spatial join using a multi-assignment grid file and a parallel spatial join using a single-assignment grid file. Three kinds of methods of task allocation for improving their performances: static, dynamic, and semi-dynamic, have been examined for **determining** which task allocation strategy bused on grid files shows the best performance. The experimental tests have been conducted on a MIMD parallel machine with shared disks. We conclude that the first join algorithm based on disjoint decomposition of data space outperforms the second based on non-disjoint decomposition. Also, the semi-dynamic task allocation method is the best. (19 Refs)
Subfile: C
Copyright 2000, IEE

19/7/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC
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06991322 INSPEC Abstract Number: C9809-6160D-014
Title: An extended model for integration between the Oracle DBMS and WWW
Author(s): Gi-Hwa Jang; Hyeon Jeong Mun; Soo-Ho Ok; Yong-Tae Woo
Author Affiliation: Dept. of Comput. Sci., Changwon Nat. Univ., South Korea
Conference Title: Proceedings of ICICS, 1997 International Conference on Information, Communications and Signal Processing. Theme: Trends in Information Systems Engineering and Wireless Multimedia Communications (Cat. No.97TH8237) Part vol.1 p.569-72 vol.1
Publisher: IEEE, New York, NY, USA
Publication Date: 1997 Country of Publication: USA 3 vol. xxxiv+1819 pp.
ISBN: 0 7803 3676 3 Material Identity Number: XX97-01537
U.S. Copyright Clearance Center Code: 0 7803 3676 3/97/$10.00
Conference Title: Proceedings of 1st International Conference on Information Communications and Signal Processing
Conference Date: 9-12 Sept. 1997 Conference Location: Singapore
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: In this paper, we propose a new type of gateway for WWW-Oracle interface, called ORAWIS (ORAcle Web Interface System). It supports various types of relational queries on the WWW such as **join** between two **tables** , one level nested queries, ORDER BY and GROUP BY operations in a conditional clause. In addition, a application designer can suggest an access method for a table by query selection with a hint option on the WWW. It causes the Oracle optimizer to choose the specified access path. By this function, an application designer can choose more efficient way than the optimizer can **determine** . The designer can also **check** the execution time of the SQL statement on the WWW. (8 Refs)
Subfile: C
Copyright 1998, IEE

19/7/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC
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06066298 INSPEC Abstract Number: C9511-6160-006
Title: Multi-table joins through bitmapped join indices
Author(s): O'Neil, P.; Graefe, G.
Author Affiliation: Microsoft Corp., Redmond, WA, USA
Journal: SIGMOD Record vol.24, no.3 p.8-11
Publication Date: Sept. 1995 Country of Publication: USA
CODEN: SRECD8 ISSN: 0163-5808
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: The paper shows how to combine some well-known techniques to create a method that efficiently executes common multi-table joins. We concentrate on a commonly occurring type of join known as a star-join, although the method presented generalizes to any type of multi-table join. A star-join consists of a central detail table with large cardinality, such as an orders table (where an order row contains a single purchase) with foreign keys that **join** to descriptive **tables** , such as customers, products, and (sales) agents. The method uses join indices with compressed bitmap representations, which allow predicates restricting columns of descriptive tables to **determine** an answer set (or found set) in the central detail table; the method uses different predicates on different descriptive tables in combination to restrict the detail table through compressed bitmap representations of join indices, and easily completes the join of the fully restricted detail table rows back to the descriptive tables. We outline realistic examples where the combination of these techniques yields substantial performance improvements over alternative, more traditional query evaluation plans. (4 Refs)
Subfile: C
Copyright 1995, IEE

19/7/8 (Item 8 from file: 2)
DIALOG(R)File 2:INSPEC
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05690979 INSPEC Abstract Number: C9407-6160D-016
Title: Automatic logical navigation for relational databases
Author(s): Reimers, P.E.; Chung, S.M.
Author Affiliation: Dept. of Comput. Sci. & Eng., Wright State Univ., Dayton, OH, USA
p.343-50
Editor(s): Deaton, E.; George, K.M.; Bergel, H.; Hedrick, G.
Publisher: ACM, New York, NY, USA
Publication Date: 1993 Country of Publication: USA xi+804 pp.
ISBN: 0 89791 567 4
U.S. Copyright Clearance Center Code: 0 89791 568 2/93/0002/0343$1.50
Conference Title: Proceedings of 8th SIGAPP Symposium on Applied Computing
Conference Sponsor: ACM
Conference Date: 14-16 Feb. 1993 Conference Location: Indianapolis, IN, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Relational **databases** have successfully removed the need for physical navigation. However, they have failed to provide automatic logical navigation, that is, users must specify a logical access path (or join path) when formulating a query. This becomes difficult and error-prone as the size and complexity of a **database** structure increase, especially for the casual user who may not be familiar with the structure of the **database** that he is attempting to query. Also, software applications, including artificial intelligence applications, involving relational **databases** often require some automated means of **determining** join paths in order to properly construct queries. A solution based upon the concept of maximal objects is proposed to provide the automatic logical navigation. The solution consists of two parts: the first part is the design of **database** structures for storing the metadata of the **database** supported by this solution; the second part is the design of a join path generator which utilizes the metadata to provide a join path for an incomplete user query. The user specifies the target tables (relations) in the "FROM" clause of an SQL query, and the join path generator returns the complete "FROM" clause and the additional "WHERE" clause statements necessary in order to properly **join** the target **tables** . (7 Refs)
Subfile: C

19/7/9 (Item 9 from file: 2)
DIALOG(R)File 2:INSPEC
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05452473 INSPEC Abstract Number: C9309-6160D-012
Title: Estimating the size of a relational join
Author(s): Mullin, J.K.
Author Affiliation: Dept. of Comput. Sci., Univ. of Western Ontario, London, Ont., Canada
Journal: Information Systems vol.18, no.3 p.189-96
Publication Date: April 1993 Country of Publication: UK
CODEN: INSYD6 ISSN: 0306-4379
U.S. Copyright Clearance Center Code: 0306-4379/93/$6.00+0.00
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P); Theoretical (T)
Abstract: This paper shows how to estimate the size of the natural join of two relations. Such an estimate is valuable in query optimization as joins constitute the bulk of the work required in answering multi-relation queries. The final optimized strategy can be adjusted if an accurate estimate of the size of the resulting joint can be efficiently and reliably **determined** . The estimate is also valuable in distributed systems. Such systems may do an operation called semijoin. A reliable estimate of the size of the final **joined table** gives sufficient information to **determine** whether the semijoin will provide a net gain or net loss in the amount of work required to do the join. The estimation method is based on partial Bloom filters. Bloom filters or segments of filters are prepared from the join attributes of the relations being jointed. It is possible to estimate the size of the **joined table** from the size of the bitwise intersection of the two filters. Estimates of the average number of replications of the join attribute in relation are also available when building the filters. (13 Refs)
Subfile: C

19/7/10 (Item 10 from file: 2)
DIALOG(R)File 2:INSPEC
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05449061 INSPEC Abstract Number: C9309-6160D-005
Title: Tuning a DB2 information warehouse
Author(s): Lyman, N.
Author Affiliation: Travelers Insurance Co., Hartford, CT, USA
Journal: Info DB vol.7, no.2 p.26-9
Publication Date: Spring 1993 Country of Publication: USA
CODEN: IFDBEB ISSN: 0891-6004
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: Another finely tuned query rolls off the assembly line-elapsed time: 7 hours, 8 minutes; CPU time: 5 hours, 20 minutes; rows returned: 32,790,712; DSNDB07 requirements: 6000 cylinders; buffer-pool size: 127 megabytes. These are some of the run-time statistics on one of the author's decision support queries. This query **joins** six **tables** whose combined row count exceeds 300 million. These are some of the seventy plus tables which make up a pair of information warehouse applications used for decision support and operational processes at The Travelers Insurance Company in Hartford, Connecticut. The author discusses the high volume tests conducted to **determine** if DB2 was the correct development platform for these applications. (0 Refs)
Subfile: C

19/7/11 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05958141 E.I. No: EIP01516767506
Title: Multi-table join algorithm for data warehouse query processing
Author: Jiang, X.D.; Zhou, L.Z.
Corporate Source: Dept. of Comp. Sci. and Technol. Tsinghua Univ., Beijing 100084, China
Source: Ruan Jian Xue Bao/Journal of Software v 12 n 2 February 2001. p 190-195
Publication Year: 2001
CODEN: RUXUEW ISSN: 1000-9825
Language: Chinese
Document Type: JA; (Journal Article) Treatment: T; (Theoretical); A; (Applications)
Journal Announcement: 0112W4
Abstract: Multi-Table join is a common operation for evaluating OLAP queries posed to a **data warehouse** . The performance of this multi-table join is one of the key problems in research of **data warehouses** . Based on the Star Schema for a **data warehouse** , this paper introduces a new algorithm M- **Join** for the multi- **table** join. **Compared** with the traditional multi-table join processing by the Relational **Database** Management System, this new algorithm, taking adequate considerations on the characteristics of the data in a **data warehouse** environment, completes the **join** by scanning every **table** only once, thus greatly improves the performance of OLAP **query processing** . The paper presents and analyzes the experimental results of this **comparison** . 8 Refs.

19/7/12 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2006 The Thomson Corp. All rts. reserv.

14882607 Genuine Article#: 015IQ Number of References: 21
Title: Distributive join strategy based on tuple inversion
Author(s): Wong WC (REPRINT) ; Bic LF
Corporate Source: Calif State Univ Dominguez Hills,Dept Comp Informat Syst,Carson//CA/90747 (REPRINT); Calif State Univ Dominguez Hills,Dept Comp Informat Syst,Carson//CA/90747(wcwong@csudh.edu; bic@ics.uci.edu)
Journal: COMPUTING AND INFORMATICS, 2005, V24, N4, P391-413
ISSN: 1335-9150 Publication date: 20050000
Publisher: SLOVAK ACADEMY SCIENCES INST INFORMATICS, DUBRAVSKA CESTA 9, 84237 BRATISLAVA, SLOVAKIA
Language: English Document Type: ARTICLE
Abstract: In this paper, we propose a new direction for distributive join operations. We assume that there will be a scalable distributed computer system in which many computers (processors) are connected through a communication network that can be in a LAN or as part of the Internet with sufficient bandwidth. A relational **database** is then distributed across this network of processors. However, in our approach, the distribution of the **database** is very fine-grained and is based on the Distributed Hash Table (DHT) concept. A tuple of a table is assigned to a specific processor by using a fair hash function applied to its key value. For each joinable attribute, an inverted file list is further generated and distributed again based on the DHT. This pre-distribution is done when the tuple enters the system and therefore does not require any distribution of data tuples on the fly when the join is executed. When a join operation request is broadcast, each processor performs a local join and the results are sent back to a **query processor** which, in turn, merges the join results and returns them to the user. Note that the distribution of the DHT of the inverted file lists can be either preprocessed or distributed on the fly. If the lists are preprocessed and distributed, they have to be maintained. We evaluate our approach by **comparing** it empirically to two other approaches: the naive join method and the fully distributed join method. The results show a significantly higher performance of our method for a wide range of possible parameters.

19/7/13 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01238300 ORDER NO: AAD92-27393
QUERY PROCESSING **IN DISTRIBUTED** DATABASE **SYSTEMS**
Author: UNNAVA, VASUNDHARA
Degree: PH.D.
Year: 1992
Corporate Source/Institution: THE OHIO STATE UNIVERSITY (0168)
Adviser: HASAN PIRKUL
Source: VOLUME 53/05-A OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 1306. 128 PAGES

During the last decade distributed **database** management systems (DDBMS) have become important information processing systems supporting business activities of geographically decentralized organizations. Since **data files** are distributed at several locations in a DDBMS, user queries that reference remote files introduce substantial data communication delays. The efficiency of a DDBMS is **determined** by the speed with which these **queries** are **processed** . This dissertation deals with the optimization of **query processing** in a relational DDBMS. Our objective is to develop a methodological approach to the design of **query processing** optimizers. The algorithms developed in this dissertation will be valuable tools in the design of a DDBMS.

The first chapter of the dissertation describes a distributed **database** environment and the importance of **query processing** in such an environment. The second chapter presents a detailed literature survey. In the third chapter, a special case of queries, star queries, is defined. The requirement for new algorithms to improve system efficiency is demonstrated. Heuristic procedures using greedy approach and a branch and bound solution procedure are proposed. An efficient lower bounding technique is implemented in the branch and bound procedure. The results of extensive computational experiments indicate that the proposed procedures **process** star **queries** effectively. Also, the greedy algorithm proves to be insensitive to errors in the selectivity estimation procedures.

The fourth chapter concentrates on the problem of a generalized star query. The problem, an extension of star query, is significantly harder than the star query problem because its optimization model includes an additional operation of **joining files** . Heuristic and branch and bound solution methods are developed. Extensive computational testing supports the practical feasibility of the solution methods. Also, rigorous analysis of the generalized star query algorithm in a dynamic mode exhibits that the static version is robust to changes in the procedures used to estimate selectivity.

The fifth chapter investigates the use of heuristics in the general **query processing** problem. Algorithms for the problem of general **query processing** , which consider various methods of selecting a semijoin in producing a **query processing** strategy are proposed. Computational experiments are designed to assess the performance of the proposed algorithms relative to existing algorithms. The analyses show that the proposed algorithms outperform the existing algorithms. Chapter six summarizes our work and also discusses future research directions in the field of **query processing** in DDBMS.

22/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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06789663 E.I. No: EIP04148097740
Title: Multidimensional Data **Partitioning for Parallel** Data Processing **in Large** Data Warehouses
Author: Sun, Junping
Corporate Source: Sch. of Comp./Information Sciences Nova Southeastern University, Fort Lauderdale, FL 33315-3025, United States
Conference Title: 4th International Conference on Computer Science and Informatics, JCIS 1998
Conference Location: Research Triangle Park, NC, United States
Conference Date: 19981023-19981028
Sponsor: Association for Intelligent Machinery; Duke University; Elsevier Publishing Company; Information Sciences Journal; US Army Research Office, Research Triangle Park, NC, USA
E.I. Conference No.: 62548
Source: Proceedings of the Joint Conference on Information Sciences v 3 1998.
Publication Year: 1998
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 0404W1
Abstract: Parallel **data processing** techniques become more and more prevalent because the rapid growing sizes of both **databases** and **data warehouses** . Their related queries tremendously increase the complexity of **data** and **query processing** and slow down the **query processing** . Both **data** partitioning and load balancing are very critical issues in parallel **data processing** environment. **Query processing** for **data** cube in star schema involves a fact table **joining** with multiple dimension **tables** . And these star queries are often found in computing aggregate functions for the applications in large **databases** and **data warehouses** . In this paper, we will present a load balance multidimensional **data** partitioning approach for parallel star query **processing** in large **databases** and/or **data warehouses** . 27 Refs.

22/7/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
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07441453 INSPEC Abstract Number: C2000-01-6160Z-017
Title: Multidimensional data **partitioning for parallel** data processing **in large** data warehouses
Author(s): Junping Sun
Author Affiliation: Sch. of Comput. & Inf. Sci., Nova Southeastern Univ., Fort Lauderdale, FL, USA
Conference Title: Joint Conference on Intelligent Systems 1999 (JCIS'98) Part vol.3 p.317-24 vol.3
Publisher: Assoc. for Intell. Machinery, USA
Publication Date: 1998 Country of Publication: USA 4 vol. 1921 pp.
ISBN: 0 9643456 7 6 Material Identity Number: XX-1999-02892
Conference Title: Proceedings of 6th International Conference on Fuzzy Theory and Technology
Conference Sponsor: Assoc. for Intell. Machinery; Machine Intell. & Fuzzy Logic Lab.; Elsevier Publishing Co.; Inf. Sci. Journal; US Army Res. Office ; Lab. for Intell. & Nonlinear Control; Duke Univ
Conference Date: 23-28 Oct. 1998 Conference Location: Research Triangle Park, NC, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: Parallel **data processing** techniques are becoming more and more prevalent because of the rapidly growing sizes of both **databases** and **data warehouses** . Their related queries tremendously increase the complexity of **data** and **query processing** and slow down the **query processing** . Both **data** partitioning and load balancing are very critical issues in a parallel **data processing** environment. **Query processing** for a **data** cube in star schema involves a fact table **joining** with multiple dimension **tables** . And these star queries are often found in computing aggregate functions for the applications in large **databases** and **data warehouses** . We present a load balance multidimensional **data** partitioning approach for parallel star query **processing** in large **databases** and/or **data warehouses** . (27 Refs)
Subfile: C
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26/7/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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04602311 E.I. No: EIP97013495941
Title: Novel parallel join **algorithms for grid** files
Author: Mohammed, Salahadin; Srinivasan, Bala; Bozyigit, M.; Le, Phu Dung
Corporate Source: Monash Univ, Victoria, Aust
Conference Title: Proceedings of the 1996 3rd International Conference on High Performance Computing, HiPC
Conference Location: Trivandrum, India Conference Date: 19961219-19961222
Sponsor: IEEE; ACM SIGARCH
E.I. Conference No.: 45855
Source: Proceedings of the 1996 3rd International Conference on High Performance Computing, HiPC 1996. IEEE, Piscataway, NJ, USA,96TB100074. p 144-149
Publication Year: 1996
CODEN: 002504
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review); T; (Theoretical)
Journal Announcement: 9703W2
Abstract: The present advances in parallel and distributed processing and its application to **database** operations such as join resulted in investigating parallel algorithms. Hash based join algorithms involve a costly data partitioning phase prior to the join operation. This paper presents new parallel join algorithms for relations based on grid files where no costly partitioning phase is involved, hence the performance can improve. (Author abstract) 10 Refs.

29/7/1 (Item 1 from file: 56)
DIALOG(R)File 56:Computer and Information Systems Abstracts
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0000387496 IP ACCESSION NO: 200311-81-1541

Not just a prololvpe rapid prototyping machines are capable of producing usable parts. One of these two diverse approaches might be just what you need.

Elliott, L

Desktop Engineering, v 9, n 1, p 22,24,26,28, Sept. 2003
PUBLICATION DATE: 2003

PUBLISHER: Helmers Publishing, Inc., 174 Concord Street, P.O. Box 874, Peterborough, NH, 03458-0874
COUNTRY OF PUBLICATION: USA
PUBLISHER EMAIL: DE-Editors@helmers.com

DOCUMENT TYPE: Journal Article
RECORD TYPE: Abstract
LANGUAGE: English
ISSN: 1085-0422
FILE SEGMENT: Computer & Information Systems Abstracts
ABSTRACT:
Xprime Inc., in Poway, CA, makes and sells Microsoft SQL servers. The company's president, **Cary Jardin** , a software expert with experience gained at Intel and SCM, uses SolidWorks to design the server faceplates, and then makes rapid prototypes in metal, using a Roland MDX 650 mill with optional rotary axis and VisualMill CAM software. He prefers the Roland DGA mill over plastic- based rapid prototyping (RP) systems because it can work with a broader range of materials. He reports that not only can he prototype his parts in the materials he'll use for the final product, but he can also manufacture small runs directly on the Roland equipment. Michael Jones, an electromechanical technician with Bowe Bell & Howell in Lincolnwood, IL, makes rapid prototypes on a Stratasys fused deposition modeling (FDM) system. The company won an important contract for high-capacity document scanners in large part by redesigning the system and testing design improvements using rapid prototypes. In addition, although designers have changed a part called a flag on the paper carriage several times, the plastic "flag hold-down" made in lots of 100 on the Stratasys system has never worn out, nor has the design been replaced. Michael Huggins, president of Precision CADCAM Systems, Hunt Valley, MD, sells equipment and consults for both Stratasys and Roland DGA RP systems. He finds that among his customers, both systems tend to be used at least as much for rapid manufacturing as for RP. "People want to get product off a machine with the fewest possible setups, while they maintain the highest possible quality for usability," he says. "When someone needs a plastic part, they can go from conceptual design to usable part on a Stratasys system-although the parts tend to be small and may need a little finishing. If someone needs to make a precise part in a hurry, the Roland equipment will do the job." Although the systems are very different in nature, some companies use both. They use the Stratasys FDM approach to create a prototype from which a mold may be made-if the surfaces can be made smooth enough. And they use the Roland DGA mill to finish the surfaces for that purpose.

27/7/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

08387734 INSPEC Abstract Number: C2002-10-6160B-020
Title: AMOS-SDDS: a scalable distributed data manager for Windows multicomputers
Author(s): Ndiaye, Y.; Dilne, A.W.; Litwin, W.; Risch, T.
Author Affiliation: CERIA, Univ. Paris IX Dauphine, France
Conference Title: Proceedings of the ISCA 14th International Conference Parallel and Distributed Computing Systems p.523-9
Editor(s): Sha, E.
Publisher: Int. Soc. Comput. & their Applicatios - ISCA, Cary, NC, USA
Publication Date: 2001 Country of Publication: USA viii+529 pp.
ISBN: 1 880843 39 0 Material Identity Number: XX-2002-01770
Conference Title: Proceedings of the ISCA 14th International Conference Parallel and Distributed Computing Systems
Conference Sponsor: Int. Soc. Comput. & their Applications - ISCA
Conference Date: 8-10 Aug. 2001 Conference Location: Richardson, TX, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Known parallel **DBMS** offer at present only static partitioning schemes. Adding a storage node is a cumbersome operation that typically requires the manual data redistribution. We present an architecture termed AMOS-SDDS for a share-nothing multicomputer. We have coupled a high-performance main-memory **DBMS** AMOS-II and a manager of Scalable Distributed Data Structures (SDDS) into a scalable distributed system SDDS provides the scalable data partitioning in distributed RAM, supporting parallel scans with function shipping. AMOS-SDDS couples both systems using the AMOS-II foreign function interface. Its scalability abolishes the cumbersome storage limits of a single site RAM **DBMS** technology. Its distributed RAM **query processing** and scalable **data** partitioning is an improvement over the current parallel DBMSs technology. We validate AMOS-SDDS architecture by experiments with distributed nested loop **join** queries over a **file** scaling up to 300,000 tuples. It includes performance study of speed-up and scale-up characteristics. The results encourage the use of SDDS for high-performance **database** systems. (19 Refs)
Subfile: C
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27/7/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC
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08278803 INSPEC Abstract Number: C2002-07-7250-003
Title: Processing a multimedia join through the method of nearest neighbor search
Author(s): Kosch, H.; Atnafu, S.
Author Affiliation: Inst. of Inf. Technol., Klagenfurt Univ., Austria
Journal: Information Processing Letters vol.82, no.5 p.269-76
Publisher: Elsevier,
Publication Date: 15 June 2002 Country of Publication: Netherlands
CODEN: IFPLAT ISSN: 0020-0190
SICI: 0020-0190(20020615)82:5L.269:PMJT;1-Y
Material Identity Number: I206-2002-009
U.S. Copyright Clearance Center Code: 0020-0190/02/$22.00
Document Number: S0020-0190(01)00279-4
Language: English Document Type: Journal Paper (JP)
Treatment: Applications (A); Practical (P)
Abstract: Commonly used content-retrieval systems focus on the problem of finding the nearest neighbor (NN-search) for a given single query object out of a **database** of media objects. However, there are only few attempts that realize join operations on two multimedia tables, where the multimedia data components are represented by their respective feature vectors. The necessity of using multimedia joins in a variety of applications is the motivation behind this search for a more efficient and more general purpose method of performing a **join** on multimedia **tables** . In this perspective, the goal of this paper is to introduce an efficient implementation of such a multimedia join using the method of NN-search. The problem is naturally related to the NN-search for a single query object which suggests a straightforward nested-loop implementation. We show that this implementation can be considerably improved by extending the notion of a query object to a query-sphere. Finally we demonstrate experimentally that our implementation decreases considerably the number of index partitions to be accessed. (12 Refs)
Subfile: C
Copyright 2002, IEE

27/7/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC
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08094876 INSPEC Abstract Number: C2002-01-6160-002
Title: Optimization of multiple user-defined functions in a query using interval constraints
Author(s): Yang Bo; Hong Xiao-guang; Wang Hai-yang
Author Affiliation: Dept. of Comput. Sci., Shandong Univ., Jinan, China
Journal: Journal of Software vol.12, no.9 p.1393-8
Publisher: Science Press,
Publication Date: Sept. 2001 Country of Publication: China
CODEN: RUXUEW ISSN: 1000-9825
SICI: 1000-9825(200109)12:9L.1393:OMUD;1-1
Material Identity Number: G255-2001-010
Language: Chinese Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: How to **process** user-defined functions incorporated in declarative **query** languages efficiently is an important aspect of query optimization. The problem of several user-defined functions in a query clause has not solved in the previous researches. In this paper, a 3-stage optimization plan is put forward which has the potency of **processing** several user-defined functions in a **query** clause: 1) rewrite user-defined functions equivalently in the form of interval constraints; 2) stratify the constraints and eliminate the redundant once; and 3) select the optimal execution strategy. This plan has the virtue of easy implementation and higher efficiency. Especially, when the user-defined functions imply **join** conditions of several **tables** , this plan can lead an optimization result. (3 Refs)
Subfile: C
Copyright 2001, IEE

27/7/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2006 Institution of Electrical Engineers. All rts. reserv.

07659956 INSPEC Abstract Number: C2000-09-7120-021
Title: Queryman-an insiders's guide
Author(s): McLean, H.
Journal: Teradata Review vol.3, no.2 p.38-41, 45
Publisher: Miller Freeman,
Publication Date: Summer 2000 Country of Publication: USA
CODEN: TRADF4
Material Identity Number: H224-2000-002
Language: English Document Type: Journal Paper (JP)
Treatment: Applications (A); Practical (P); Product Review (R)
Abstract: Although First American National Bank initially licensed Platinum Technology's InfoReports query tool, I found I needed functionality that exceeded that product's capabilities. InfoReports is supposed to make the query job easy; and, for simple queries involving one or two tables, it did. However, I quickly found that this tool was not suitable for the complex queries we often required. To monitor the retention, acquisition, and defection of customers, for example, we wanted to measure not only the added or lost households, but also all the added or lost accounts that were associated with those households. (In the automated householding process, accounts may sometimes be split between households or regrouped into new households for arbitrary reasons, such as a change of address form sent in for one but not all associated accounts. This splitting, of course, is not a real indication that we have acquired or lost a customer.) This kind of query requires a derived table. Queryman and Teradata handle derived tables nicely, but InfoReports does not. I also found that InfoReports produced very slow and inefficient SQL code when we needed, for example, outer **joins** . Subqueries, derived **tables** , and temporary tables were similarly difficult or impossible to execute. To meet these advanced user needs, the bank installed Queryman on all Teradata users' PCs. (0 Refs)
Subfile: C
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27/7/8 (Item 8 from file: 2)
DIALOG(R)File 2:INSPEC
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07618128 INSPEC Abstract Number: C2000-07-6160J-027
Title: Build hierarchical recordsets easily
Author(s): Freels, B.
Author Affiliation: Catapult Syst. Corp., Austin, TX, USA
Journal: Visual Basic Programmer's Journal vol.10, no.7 p.64-70
Publisher: Fawcette Technical Publications,
Publication Date: June 2000 Country of Publication: USA
CODEN: VBPJF7 ISSN: 1075-1955
SICI: 1075-1955(200006)10:7L.64:BHRE;1-I
Material Identity Number: G444-2000-007
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: Scalability and resource usage are hot topics of discussion in the ever-changing world of n-tier programming. Network round-trips and expensive **database** queries can reduce application performance severely and even cause applications to fail. Such fundamental **database** programming issues confront most developers at some point in their careers, and knowing the most efficient way to approach the issues is essential. I show how to use master/detail **database** relationships to deal effectively with the problem of **joining** two **database** **tables** to present information. You will need ActiveX Data Objects and Visual Basic 6.0. (0 Refs)
Subfile: C
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27/7/9 (Item 9 from file: 2)
DIALOG(R)File 2:INSPEC
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07566190 INSPEC Abstract Number: C2000-05-6160Z-029
Title: On the independence of data warehouse **from** databases **in maintaining join views**
Author(s): Wookey Lee
Author Affiliation: SungKyul Univ., Kyungki, South Korea
Conference Title: Data Warehousing and Knowledge Discovery. First International Conference, DaWaK'99. Proceedings (Lecture Notes in Computer Science Vol.1676) p.86-95
Editor(s): Mohania, M.; Tjoa, A.M.
Publisher: Springer-Verlag, Berlin, Germany
Publication Date: 1999 Country of Publication: Germany xii+400 pp.
ISBN: 3 540 66458 0 Material Identity Number: XX-1999-02851
Conference Title: Data Warehousing and Knowledge Discovery. First International Conference, DaWaK'99. Proceedings
Conference Date: 30 Aug.-1 Sept. 1999 Conference Location: Florence, Italy
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: In maintaining **data warehouse** views without interfering current **databases** , a **join** differential **file** (JDF) scheme is introduced. The scheme uses differential files from relevant logs of **databases** and **join** differential **files** by capturing the referential integrity signal between the base relations. Cost functions are formulated, that analyze the performance of the JDF, the base method, and the pseudo differential method in various conditions. The algorithm is shown to be much better than the other two methods with high communication speed, more screening and small **join** differential **files** . (17 Refs)
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27/7/10 (Item 10 from file: 2)
DIALOG(R)File 2:INSPEC
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07243747 INSPEC Abstract Number: C1999-06-6160J-016
Title: Join index hierarchy: an indexing structure for efficient navigation in object-oriented databases
Author(s): Jiawen Han; Zhaohui Xie; Yongjian Fu
Author Affiliation: Sch. of Comput. Sci., Simon Fraser Univ., Burnaby, BC, Canada
Journal: IEEE Transactions on Knowledge and Data Engineering vol.11, no.2 p.321-37
Publisher: IEEE,
Publication Date: March-April 1999 Country of Publication: USA
CODEN: ITKEEH ISSN: 1041-4347
SICI: 1041-4347(199903/04)11:2L.321:JIHI;1-7
Material Identity Number: N571-1999-003
U.S. Copyright Clearance Center Code: 1041-4347/99/$10.00
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P); Theoretical (T)
Abstract: A novel indexing structure-the join index hierarchy-is proposed to handle the "gotos on disk" problem in object-oriented **query processing** . The method constructs a hierarchy of join indices and transforms a sequence of pointer-chasing operations into a simple search in an appropriate **join** index **file** , and thus accelerates navigation in object-oriented **databases** . The method extends the join index structure studied in relational and spatial **databases** , supports both forward and backward navigation among objects and classes, and localizes update propagations in the hierarchy. Our performance study shows that a partial join index hierarchy outperforms several other indexing mechanisms in object-oriented **query processing** . (34 Refs)
Subfile: C
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27/7/11 (Item 11 from file: 2)
DIALOG(R)File 2:INSPEC
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07167982 INSPEC Abstract Number: C1999-03-6160D-026
Title: Joins that generalize: text classification using WHIRL
Author(s): Cohen, W.W.; Hirsh, H.
Author Affiliation: Dept. of Res., AT&T Labs., Florham Park, NJ, USA
Conference Title: Proceedings Fourth International Conference on Knowledge Discovery and Data Mining p.169-73
Editor(s): Agrawal, R.; Stolorz, P.
Publisher: AAAI Press, Menlo Park, CA, USA
Publication Date: 1998 Country of Publication: USA xii+382 pp.
ISBN: 1 57735 070 7 Material Identity Number: XX-1998-02231
Conference Title: Proceedings of the Fourth International Conference on Knowledge Discovery and Data Mining
Conference Date: 27-31 Aug. 1998 Conference Location: New York, NY, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: WHIRL is an extension of relational **databases** that can perform "soft joins" based on the similarity of textual identifiers; these soft joins extend the traditional operation of **joining tables** based on the equivalence of atomic values. This paper evaluates WHIRL on a number of inductive classification tasks using data from the World Wide Web. We show that although WHIRL is designed for more general similarity-based reasoning tasks, it is competitive with mature inductive classification systems on these classification tasks. In particular, WHIRL generally achieves lower generalization error than C4.5, RIPPER, and several nearest-neighbor methods. WHIRL is also fast-up to 500 times faster than C4.5 on some benchmark problems. We also show that WHIRL can be efficiently used to select from a large pool of unlabeled items those that can be classified correctly with high confidence. (11 Refs)
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27/7/12 (Item 12 from file: 2)
DIALOG(R)File 2:INSPEC
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06856756 INSPEC Abstract Number: C9804-6160D-006
Title: Array-based evaluation of multi-dimensional queries in object-relational database **systems**
Author(s): Zhao, Y.; Ramasamy, K.; Tufte, K.; Naughton, J.F.
Author Affiliation: Wisconsin Univ., Madison, WI, USA
Conference Title: Proceedings. 14th International Conference on Data Engineering (Cat. No.98CB36164) p.241-9
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 1998 Country of Publication: USA xxi+605 pp.
ISBN: 0 8186 8289 2 Material Identity Number: XX98-00410
U.S. Copyright Clearance Center Code: 0 8186 8289 2/98/$10.00
Conference Title: Proceedings 14th International Conference on Data Engineering
Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Data Eng
Conference Date: 23-27 Feb. 1998 Conference Location: Orlando, FL, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: Since multi-dimensional arrays are a natural data structure for supporting multi-dimensional queries, and object-relational (O/R) **database** systems support multi-dimensional array ADTs (abstract data types), it is natural to ask if a multi-dimensional array-based ADT can be used to improve O/R **DBMS** performance on multi-dimensional queries. As an initial step toward answering this question, we have implemented a multi-dimensional array in the Paradise O/R **DBMS** . In this paper, we describe the implementation of this compressed-array ADT and explore its performance for queries including star-join consolidations and selections. We show that, in many cases, the array ADT can provide significantly higher performance than can be obtained by applying techniques such as bitmap indices and star- **join** algorithms to relational **tables** . (16 Refs)
Subfile: C
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27/7/13 (Item 13 from file: 2)
DIALOG(R)File 2:INSPEC
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06757201 INSPEC Abstract Number: C9801-6160D-002
Title: Normalization on the fly
Author(s): Millet, I.
Author Affiliation: Behrend Coll., Penn State Erie, Erie, PA, USA
Journal: Journal of Systems and Software vol.40, no.1 p.85-8
Publisher: Elsevier,
Publication Date: Jan. 1998 Country of Publication: USA
CODEN: JSSODM ISSN: 0164-1212
SICI: 0164-1212(199801)40:1L.85:N;1-G
Material Identity Number: J325-97012
U.S. Copyright Clearance Center Code: 0164-1212/98/$19.00
Document Number: S0164-1212(97)00015-0
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: This paper describes a universal technique for data retrieval from a **database** file afflicted with repeating groups. The procedure relies on a generic "repeater" table which is **joined** to the unnormalized **table** . Though the physical data model may violate first normal form, the proposed technique produces a data view that overcomes that violation. The importance of this technique to the design and use of **databases** is demonstrated through an actual case study. (5 Refs)
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27/7/14 (Item 14 from file: 2)
DIALOG(R)File 2:INSPEC
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06729907 INSPEC Abstract Number: C9712-7330-083
Title: Query access to relational databases via the World-Wide Web
Author(s): Stubbs, M.; Benson, B.J.
Author Affiliation: Center for Limnology, Wisconsin Univ., Madison, WI, USA
Conference Title: Proceedings of Eco-Informa '96. Global Networks for Environmental Information Part vol.1 p.105-9 vol.1
Publisher: Environ. Res. Inst. Michigan, Ann Arbor, MI, USA
Publication Date: 1996 Country of Publication: USA 2 vol. xxxviii+1027 pp.
ISBN: 0 9603590 7 9 Material Identity Number: XX96-03170
Conference Title: Proceedings of Meeting on Global Networks for Environmental Information: Bridging the Gap Between Knowledge and Application
Conference Sponsor: Environ. Rest. Inst. Michigan, ERIM; Epcot Sci. & Technol.; NASA; et al
Conference Date: 4-7 Nov. 1996 Conference Location: Lake Buena Vista, FL, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)
Abstract: At the North Temperate Lakes Long-Term Ecological Research site, our centralized relational **database** is accessible from the Internet. Initially we used Gopher to serve up flat files of data extracted from **database** tables to Internet users. These files must be maintained separately as the central **database** is updated. Such files cannot be queried or linked to provide a subset, summary or **join** of **data files** . Search and display capabilities are quite limited. We then investigated low-cost methods to access our **database** directly and dynamically via the World-Wide Web (WWW). The freeware Perl5 library called Dbperl was tested to provide HTML CGI access to our Oracle 7 **database** . The PGPLOT.pm and CGI.pm Perl5 modules were also essential. We contrast flat file access with the Perl5 interface we developed. Now our Dbperl development enables WWW users to do interactive queries on the fly and provides the current version of the data. (0 Refs)
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27/7/15 (Item 15 from file: 2)
DIALOG(R)File 2:INSPEC
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05685039 INSPEC Abstract Number: C9407-6160D-007
Title: Finding compact scheme forests in nested normal form is NP-hard
Author(s): Thanisch, P.; Loizou, G.; Nummenmaa, J.
Author Affiliation: Dept. of Comput. Sci., Edinburgh Univ., UK
Journal: Information and Computation vol.110, no.1 p.19-41
Publication Date: April 1994 Country of Publication: USA
CODEN: INFCEC ISSN: 0890-5401
U.S. Copyright Clearance Center Code: 0890-5401/94/$6.00
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: In traditional relational **databases** , the **data** are stored in 'flat' tables. **Query processing** performance is dominated by the cost of **joining** such **tables** . By contrast, nested relational structures can avoid joints. If, however, such structures are decomposed into nested normal form (NNF) then the number of normal scheme trees in the resulting nested scheme forest may dominate **query processing** performance. Thus, minimizing the number of such trees is an important design goal. We prove that the problem of finding a succinct NNF scheme forest is NP-hard even for the class of sets of unary multivalued dependencies, which is a subclass of the class of split-free sets of multivalued dependencies. (17 Refs)
Subfile: C

27/7/16 (Item 16 from file: 2)
DIALOG(R)File 2:INSPEC
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05372339 INSPEC Abstract Number: C9305-6160D-013
Title: Measuring the complexity of join enumeration in query optimization
Author(s): Ono, K.; Lohman, G.M.
Author Affiliation: IBM Almaden Res. Center, San Jose, CA, USA
Conference Title: Very Large Data Bases. 16th International Conference on Very Large Data Bases p.314-25
Editor(s): McLeod, D.; Sacks-Davis, R.; Schek, H.
Publisher: Morgan Kaufmann, Palo Alto, CA, USA
Publication Date: 1990 Country of Publication: USA xiii+730 pp.
Conference Sponsor: IEEE; ACM; Australian Airlines; CSIRO; Digital Equipment Corp.; et al
Conference Date: 13-16 Aug. 1990 Conference Location: Brisbane, Qld., Australia
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Theoretical (T)
Abstract: Since relational **database** management systems typically support only diadic join operators as primitive operations, a query optimizer must choose the 'best' sequence of two-way joins to achieve the N-way **join** of **tables** requested by a **query** . The computational complexity of this optimization **process** is dominated by the number of such possible sequences that must be evaluated by the optimizer. This paper describes and measures the performance of the Starbust join enumerator, which can parametrically adjust for each query the space of join sequences that are evaluated by the optimizer to allow or disallow: composite tables (i.e., tables that are themselves the result of a join) as the inner operand of a join; and **joins** between two **tables** having no joint predicate linking them (i.e., Cartesian products). (18 Refs)
Subfile: C

27/7/17 (Item 17 from file: 2)
DIALOG(R)File 2:INSPEC
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05341393 INSPEC Abstract Number: C9303-6160D-019
Title: Query performance evaluation of a relational DBMS
Author(s): Grovlen, O.; Due Trier, O.
Author Affiliation: Div. of Comput. Syst. & Telematics, Norwegian Inst. of Technol., Trondheim, Norway
Conference Title: Second International Workshop on Research Issues on Data Engineering: Transaction and Query Processing (Cat. No.92TH0417-6) p.223
Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA
Publication Date: 1992 Country of Publication: USA xi+227 pp.
ISBN: 0 8186 2660 7
U.S. Copyright Clearance Center Code: 0 8186 2660 7/92$3.00
Conference Sponsor: IEEE
Conference Date: 2-3 Feb. 1992 Conference Location: Tempe, AZ, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: This paper presents a study of query performance in Oracle **RDBMS** . The test results show that for low selectivity selection queries, indexes are of no help. It is also shown that when **joining** large parts of **tables** , sort-merge join performs better than indexed join. (1 Refs)
Subfile: C

27/7/18 (Item 18 from file: 2)
DIALOG(R)File 2:INSPEC
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05304013 INSPEC Abstract Number: C9301-6160B-031
Title: Design and implementation of parallel database **processing on a shared memory multiprocessor system**
Author(s): Satoh, T.; Hirano, Y.; Honishi, T.; Inoue, U.
Author Affiliation: NTT Network Inf. Syst. Labs., Tokyo, Japan
Conference Title: Future Databases '92. Proceedings of the Second Far-East Workshop on Future Database Systems p.337-46
Editor(s): Qiming Chen; Yahiko Kambayashi; Sacks-Davis, R.
Publisher: World Scientific, Singapore
Publication Date: 1992 Country of Publication: Singapore xii+418 pp.
ISBN: 981 02 1040 X
Conference Date: 26-28 April 1992 Conference Location: Kyoto, Japan
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: The time required to execute batch transactions is becoming longer because of the increasing size of **databases** and because batch transaction queries are becoming more complex. Batch transactions include range queries executed with and without the use of indexes, **join** queries and **table** merge operations which include index updating. Execution time can be reduced by introducing intra-parallelism in the processing of these transactions. The authors propose a load balancing algorithm and an index structure on a shared memory multiprocessor system to achieve highly scalable intra-parallelism in executing batch transactions. In the proposed algorithm, the number of allocated tasks is dynamically calculated on the basis of the number of remaining tasks and the max/min processing time of each task to decrease the overhead of parallel execution. The proposed index structure is a hybrid structure consisting of some B-trees associated with a hashing function. Highly parallel execution of range queries and table merges requiring index operations is achieved with this hybrid structure. The effects of the adaptive load balancing and hybrid index structure are evaluated by a prototype **DBMS** implemented in a shared memory multiprocessor. The performance evaluation shows the adaptive algorithm can increase the scalability by 0.1 to 0.2. Range queries and table merging requiring index operations can be easily executed in parallel by using the hybrid index structure. (16 Refs)
Subfile: C

27/7/19 (Item 19 from file: 2)
DIALOG(R)File 2:INSPEC
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03895495 INSPEC Abstract Number: C87034999
Title: Distributed database **query simulator**
Author(s): Kocharekar, R.
Author Affiliation: World Bank, Washington, DC, USA
Conference Title: 1986 Winter Simulation Conference Proceedings p. 732-42
Editor(s): Wilson, J.R.; Henrikson, J.O.; Roberts, S.D.
Publisher: SCS, San Diego, CA, USA
Publication Date: 1986 Country of Publication: USA xxv+890 pp.
ISBN: 0 911801 11 1
Conference Sponsor: American Stat. Assoc.; ACM; IEEE; Inst. Ind. Eng.; SCS; et al
Conference Date: 8-10 Dec. 1986 Conference Location: Washington, DC, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: A design methodology for a distributed **database** query simulator (DDQS) is discussed. A distributed **database** query consists of two different types of sub tasks; the tasks pertaining to the relational **database** manipulation language, such as project and **joins** on different **files** ; and the tasks of file transfers. A given query can have any number of subtasks of both types. These tasks are interrelated, and parallel operations can be performed provided the required serialization is maintained. The subtasks compete for common resources; with subtasks from other queries being evaluated at the same time, or, to some degree, with the subtasks from the same query if performed in parallel. The purpose of the DDQS is to evaluate the performance of a given **query** algorithm in terms of the total **query processing** time, in a given workload and network architecture. The DDQS uses transaction-oriented GPSS language to simulate the query, while Pascal is used to generate the GPSS source code relevant to the query. The DDQS design is highly modular and simulation of any communication protocol layers or **database** access methods can be changed without affecting the higher level modules. (7 Refs)
Subfile: C

27/7/20 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS
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1794901 NTIS Accession Number: N94-22518/2
European Southern Observatory-MIDAS Table File System
(Abstract Only)
Peron, M. ; Grosbol, P.
European Southern Observatory, Munich (Germany, F.R.).
Corp. Source Codes: 057191000; E6836156
Sponsor: National Aeronautics and Space Administration, Washington, DC.
1992 1p
Languages: English
Journal Announcement: GRAI9411; STAR3205
In NASA, Washington, Second Annual Conference on Astronomical Data Analysis Software and Systems. Abstracts p 87.
NTIS Prices: (Order as N94-22438/3, PC A07/MF A02)
Country of Publication: Germany
The new and substantially upgraded version of the Table File System in MIDAS is presented as a scientific **database** system. MIDAS applications for performing **database** operations on tables are discussed, for instance, the exchange of the data to and from the TFS, the selection of objects, the uncertainty **joins** across **tables** , and the graphical representation of data. This upgraded version of the TFS is a full implementation of the binary table extension of the FITS format; in addition, it also supports arrays of strings. Different storage strategies for optimal access of very large data sets are implemented and are addressed in detail. As a simple relational **database** , the TFS may be used for the management of personal **data files** . This opens the way to intelligent pipeline **processing** of large amounts of **data** . One of the key features of the Table File System is to provide also an extensive set of tools for the analysis of the final results of a reduction process. Column operations using standard and special mathematical functions as well as statistical distributions can be carried out; commands for linear regression and model fitting using nonlinear least square methods and user-defined functions are available. Finally, statistical tests of hypothesis and multivariate methods can also operate on tables.

27/7/21 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05412720 E.I. No: EIP99114893551
Title: Hash-based symmetric data structure and join algorithm for OLAP applications
Author: Toyama, Motomichi; Ohara, Akira
Corporate Source: Keio Univ
Conference Title: Proceedings of the 1999 International Database Engineering and Application Symposium, IDEAS'99
Conference Location: Montreal, Que, Can Conference Date: 19990802-19990804
Sponsor: Concordia University
E.I. Conference No.: 55503
Source: Proceedings of the International Database Engineering and Applications Symposium, IDEAS 1999. p 231-238
Publication Year: 1999
CODEN: 002754
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9912W3
Abstract: Star schema is often used in dimensional approaches applied to OLAP applications. The fact table in the star schema typically contains a huge amount of data. When some of the dimension tables are also very large, it may take too much time and storage to **join** the fact **table** with these dimension tables. The performance of join algorithm becomes critical under such a condition. The fluent join is a join algorithm that operates on relations organized as multidimensional linear hash files. Like a merge join on relations which are already sorted on the joining key, its execution reads each page in the operand relations no more than once and does not create intermediate result files. Unlike sorting, the multidimensional linear has can cluster records in several keys symmetrically. In this paper, the concept of the fluent join is applied to an OLAP system to cluster records in each table on the joining keys. As a result, the algorithm yields symmetric performances on **joins** with different dimension **tables** . (Author abstract) 18 Refs.

27/7/22 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05303304 E.I. No: EIP99064704089
Title: Join index hierarchy: an indexing structure for efficient navigation in object-oriented databases
Author: Han, Jiawei; Xie, Zhaohui; Fu, Yongjian
Corporate Source: Simon Fraser Univ, Burnaby, BC, Can
Source: IEEE Transactions on Knowledge and Data Engineering v 11 n 2 1999. p 321-337
Publication Year: 1999
CODEN: ITKEEH ISSN: 1041-4347
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 9908W2
Abstract: A novel indexing structure - join index hierarchy - is proposed to handle the 'gotos on disk' problem in object-oriented **query processing** . The method constructs a hierarchy of join indices and transforms a sequence of pointer chasing operations into a simple search in an appropriate **join** index **file** , and thus accelerates navigation in object-oriented **databases** . The method extends the join index structure studied in relational and spatial **databases** , supports both forward and backward navigations among objects and classes, and localizes update propagations in the hierarchy. Our performance study shows that partial join index hierarchy outperforms several other indexing mechanisms in object-oriented **query processing** . (Author abstract) 34 Refs.

27/7/23 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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03953284 E.I. No: EIP94101422865
Title: NonStop SQL: scalability and availability for decision support
Author: Englert, Susanne
Corporate Source: Tandem Computers Inc, Cupertino, CA, USA
Conference Title: Proceedings of the 1994 ACM SIGMOD International Conference on Management of Data
Conference Location: Minneapolis, MN, USA Conference Date: 19940524-19940527
Sponsor: SIGMOD
E.I. Conference No.: 20693
Source: Proceedings of the ACM SIGMOD International Conference on Management of Data v 23 n 2 Jun 1994. Publ by ACM, New York, NY, USA. p 491
Publication Year: 1994
CODEN: 000462 ISBN: 0-89791-639-5
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications)
Journal Announcement: 9411W3
Abstract: In 1989, Tandem introduced intra-query parallelism to NonStop SQL. Table scans and aggregates as well as nested-loop and merge joins could be performed in parallel. Near-linear speedup and scaleup were demonstrated for straightforward scans, aggregates and nested loop joins. Scalability is an inherent objective of these environments, since query times should remain relatively constant regardless of the size of the large tables. To improve the scalability of typical decision support queries, Tandem has added parallel implementations of hash joins, cross product joins and hashed groupings to Non Stop SQL. Hash joins are useful when a large table is joined with a smaller one, especially if there are no useful indexes on the join columns. we briefly describe the hash join algorithm and use results from a customer benchmark to illustrate why it is often superior to merge joins and nested-loop joins under the given circumstances. Cross products (or 'star **joins** ') allow small **tables** to be joined without predicates if there is a subsequent equijoin of the composite table to another table. They can reduce the need to scan large tables in joins. Results from the customer benchmark demonstrate their usefulness. We also describe hashed groupings, which eliminate sorts to form groups for subsequent aggregation. Hashed groupings allow execution of queries in the benchmark that were previously impossible.

27/7/24 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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02746575 E.I. Monthly No: EI8906052972
Title: New JEF/EFF based MATXS-formatted nuclear data libraries.
Author: Vontobel, P.; Pelloni, S.
Corporate Source: Paul Scherrer Inst, Villigen, Switz
Source: Nuclear Science and Engineering v 101 n 3 Mar 1989 p 298-301
Publication Year: 1989
CODEN: NSENAO ISSN: 0029-5639
Language: English
Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 8906
Abstract: Using the NJOY nuclear **data processing** system, three multigroup MATXS-formatted nuclear **data** libraries were generated based on the European **data files** JEF-1 and EFF-1. After **processing** with TRAMIX, TRANSX, or TRANSX-CTR, these libraries can be read into most transport and diffusion codes. For the neutron analysis of gas-cooled or water moderated thermal reactor systems (including high converter pressurized water reactors), a 70-group WIMS-BOXER structured library was generated. A general-purpose fine-group library in 308 groups is provided for thermal as well as for fast reactor systems. A coupled 175 neutron/42 photon-group library in VITAMIN-J structure was created for the analysis of shielding problems and fusion blanket design. The three MATRXS files can be requested from the Nuclear Energy Agency **Data Bank** . (Author abstract) 10 Refs.

27/7/25 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online
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01847284 ORDER NO: AADAA-I3024752
Mining decentralized data repositories
Author: Jensen, Viviane Crestana
Degree: Ph.D.
Year: 2001
Corporate Source/Institution: University of Michigan (0127)
Chair: Nandit Soparkar
Source: VOLUME 62/08-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 3688. 134 PAGES
ISBN: 0-493-35826-9

Technology for data mining, i.e., finding useful trends and patterns in large **data repositories** , has acquired significant importance with increasing availability of online data. While such technology is typically applied to centrally stored data, real-life **database** design and management, and performance aspects suggest the mining of decentralized data, which consists of several tables, perhaps obtained via normalization or partitioning and allocation, stored in several repositories with possibly separate administration and schema. The few prior extensions to mining for such **data** have algorithms developed largely for parallel **processing** as opposed to addressing the specific issues for decentralized data. Most approaches to mining decentralized data require the separate tables to be joined to form a single table.

In contrast, this dissertation presents techniques for mining decentralized data that do not require the **join** of all **tables** . The approach exploits foreign key relationships to develop decentralized algorithms that execute concurrently on the separate tables, and thereafter merge the results. We develop our techniques using the specific example of association rules discovery. Important issues concerning the merging of partial results, the computation and memory requirements, and the associated costs and trade-offs are examined.

Several different decentralized strategies arise, and an algebra is presented which allows enumeration of the many different decentralized mining strategies, each with different processing costs. Based on this algebra, heuristics are developed that reduce the overall computation, I/O, and communication costs. When cost estimates are available for the basic operations, there is an opportunity to optimize for the best strategy in a manner similar to **query processing** . As such, our approach may be suitably integrated with available **query processing** algorithms for large-scale decentralized **data** mining.

Our decentralized approach is empirically validated, and in cases of interest it performs significantly better than the typical centralized approach. Several decentralized alternatives are implemented, and the heuristic rules are validated, i.e., are shown to choose optimal or nearly optimal plans. The decentralized approach presented in this dissertation may be adapted to different counting strategies, different storage structures, incremental mining, and to exploit indices and summary data where available; some of these improvements are infeasible in a centralized approach.

This dissertation provides an approach to decentralized mining that establishes its feasibility and importance, and opens numerous new avenues for research in data mining.

```
Set     Items   Description
S1     245759   DATABASE? OR DATABANK? OR DATA()(BASE? OR BANK? OR FILE? OR
              REPOSITOR? OR WAREHOUSE?) OR DB OR RDB OR OODB OR ODBC OR DB-
             MS OR RDBMS
S2      33353   S1(7N)(TABLE? OR FILE? ? OR COLLECTION? OR MATRI??? OR ARR-
             AY?)
S3       2822   S2(3N)(FRACTION? OR PART??? OR PORTION? OR SUBSET? OR FRAG-
             MENT? OR PIECE? OR SEGMENT? OR DETAIL?)
S4       5056   S2:S3(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR O-
             RIGINAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S5       4522   S2:S3(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHE-
             R? OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S6       1241   S2(5N)(JOIN??? OR COMBIN? OR ADD??? ? OR MERG??? ?)
S7        304   S6(5N)(ONE OR FIRST? OR 1ST OR PRIMARY OR INITIAL? OR ORIG-
             INAL? OR LEADOFF? OR MAIN OR CHIEF OR INTRODUCTORY?)
S8        263   S6(5N)(SECOND OR II OR COUPLE OR 2ND OR TWICE OR ANOTHER? -
             OR TWIN OR TWO OR DIFFERENT OR ADDITIONAL OR 2)
S9    3908963   (OUTPUT? OR OUTPUT?()DIAGNOSTIC? OR READOUT? OR READ()OUT?
             ? OR RESULT?)
S10    494474   S9(7N)(GENERAT? OR PRODUC? OR CREATE? ? OR CREATING? OR CR-
             EATION? OR PROPOGAT? OR DEVELOP? OR YIELD? OR CONSTRUCT??? ? -
             OR MAP??? ? OR MAPPING? ?)
S11    106502   S9(7N)(ORIGINAT? OR MAKE? OR MAKING? OR INITIAT? OR INTROD-
             UC? OR REPRODUCE? OR REPRODUCING? OR BUILD? OR BUILT? OR MANU-
             FACT?)
S12   3213908   DETERMIN? OR COMPAR? OR DISCERN? OR ASCERTAIN? OR ANALY? OR
              IDENT? OR CHECK? OR VERIF? OR JUDG??? ?
S13   3146484   MONITOR? OR EXAMIN? OR DETECT? OR UNCOVER? OR REVEAL? OR A-
             SSESS? OR EVALUAT? OR INSPECT? OR SCAN???
S14        77   (S12:S13 AND S4 AND S7) AND (S12:S13 AND S5 AND S8)
S15        13   S14 AND S10:S11
S16        64   S14 NOT S15
S17        19   S16 AND DATABASE
S18         0   S17 AND JOIN()TABLE?
S19         6   S17 AND JOIN(3N)(TABLE? OR FILE? ?)
S20       117   S1 AND DATABASE? ? AND JOIN(3N)(TABLE? OR FILE? ?)
S21        62   S20 AND (DETERMIN? OR COMPAR? OR CHECK??? OR JUDG??? ?)
S22        57   S21 NOT (S15 OR S19)
S23        10   S22 AND S7:S8
S24        47   S22 NOT S23
S25       190   S1 AND DATABASE? ? AND JOIN???(3N)(TABLE? OR FILE? ?)
S26        73   S25 NOT S20
S27        72   S26 NOT (S15 OR S19 OR S23)
S28       119   S24 OR S27
S29        73   S28 AND (DETERMIN? OR COMPAR? OR CHECK??? OR JUDG??? ?)
S30        67   S29 NOT (PR>2003 OR PR=2004:2006)
S31        26   S30 AND (QUER??? ? OR DATA)(2N)(PROCESS??? ? OR SORT??? ?)
S32        17   AU=(JARDIN C? OR JARDIN, C?)
S33         0   CARY(2N)JARDIN
S34         9   S32 AND S1
S35         4   S34 NOT (PR>2003 OR PR=2004:2006)
File 350:Derwent WPIX 1963-2006/UD=200661
         (c) 2006 The Thomson Corporation
File 347:JAPIO Dec 1976-2005/Dec(Updated 060404)
         (c) 2006 JPO & JAPIO
```

15/69,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014981836 - Drawing available
WPI ACC NO: 2005-329683/200534
XRPX Acc No: N2005-269450
Data file processing system for bank, has input vertical stack processor for transitioning previous version of record into current version for use in creating application input file
Patent Assignee: METAVANTE CORP (META-N)
Inventor: BOUDRIS E J; SCHUMACHER B K
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6886018	B1	20050426	US 2001972075	A	20011005	200534 B

Priority Applications (no., kind, date): US 2001972075 A 20011005

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6886018	B1	EN	32	18	

Alerting Abstract US B1

NOVELTY - An input vertical stack processor has record transitioning routine for transitioning previous version of record into current version for use in creating application input file, and allows individual records to grow horizontally by using reserved unused space and vertically by adding records without requiring all existing users to make synchronized changes. An application processor processes the application input file.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.destination data file production system; and

2.data file processing method.

USE - Used for processing data file such as financial data file in financial institution such as bank.

ADVANTAGE - Enables to implement changes in the record with minimum affect on the users.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the data processing service provider.

12 data processing service provider

Title Terms/Index Terms/Additional Words: DATA; FILE; PROCESS; SYSTEM; BANK ; INPUT; VERTICAL; STACK; PROCESSOR; VERSION; RECORD; CURRENT; APPLY

Class Codes
International Classification (Main): G06F-017/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05E; T01-J05A1; T01-J05B2

Original Publication Data by Authority

Original Abstracts:
A system for processing a **data file** which includes versioned records of a fixed length, each record having one or more data...

...portion of the reserve area such that the length of the record is not changed. **Additional** records may be **added** to the record set to accommodate new or expanded data fields that exceed the fixed length of the records. Each record of the **data file** has a version number. The system includes an input vertical stack processor for transitioning previous...

...versioned records including the current version and all previous versions for each record of the **data file.**

Claims:

...length, said system comprising:an input vertical stack processor including a record transitioning routine for **determining** when a record is a previous record version from said plurality of versioned records and...

15/69,K/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014494675 - Drawing available
WPI ACC NO: 2004-675775/200466
Related WPI Acc No: 2004-624649; 2004-675766; 2004-675776; 2004-688879; 2004-689370; 2005-171937
XRPX Acc No: N2004-535531
Query command processing method for use in distributed computing system e.g. database system, involves comparing **two portions of** database table **with** two join tables **, to** generate two **intermediate** results **files**
Patent Assignee: JARDIN C A (JARD-I)
Inventor: JARDIN C A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040181523	A1	20040916	US 2003345504	A	20030116	200466 B
			US 2003345811	A	20030116	
			US 2004808177	A	20040323	

Priority Applications (no., kind, date): US 2003345811 A 20030116; US 2003345504 A 20030116; US 2004808177 A 20040323
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040181523	A1	EN	30	13	C-I-P of application US 2003345504
					C-I-P of application US 2003345811

Alerting Abstract US A1
NOVELTY - The method involves **comparing** a **portion** of **one database table** with **two join tables** . **Another portion** of the table is **compared** with the two join tables to **generate** two intermediate results files. A final **results** file is **generated** from the **two** intermediate **results files** . The **portions** of the **two database tables** on a node are stored in equal portions. Post-processing operations are executed on the final results file.
DESCRIPTION - An INDEPENDENT CLAIM is included for a distributed database system for processing a **database** query command in which **database tables** are stored on nodes, **different portions** of **database table** stored on **two** of the nodes.
USE - Used for processing a query command in a distributed computing system (claimed) e.g. distributed database system and distributed task system.
ADVANTAGE - The method provides a superior performance of high-speed distributed computing system in a clustered environment. The method **makes** the distributed computing system to return processing **results** to a requestor in significantly reduced times.
DESCRIPTION OF DRAWINGS - The drawing shows a block diagram of a database system.
100 Database system
110 Client
120 Network
130 Database server
140 Storage

Technology Focus
INDUSTRIAL STANDARDS - The node is connected to a secondary node via an inter-nodal communication link conforming to the ~IEEE 1596~ standards.

Title Terms/Index Terms/Additional Words: QUERY; COMMAND; PROCESS; METHOD; DISTRIBUTE; COMPUTATION; SYSTEM; DATABASE; **COMPARE** ; TWO; PORTION; TABLE ; JOIN; GENERATE; INTERMEDIATE; RESULT; FILE

Class Codes
International Classification (Main): G06F-007/00
(Additional/Secondary): G06F-017/30
File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4A; T01-N03A2

Query command processing method for use in distributed computing system e.g. database system, involves comparing **two portions of** database table **with** two join tables , **to** generate two **intermediate** results **files**

Original Titles:
System and method for **generating** and processing **results** data in a distributed system

Alerting Abstract ...NOVELTY - The method involves **comparing** a **portion** of **one database table** with **two join tables** . **Another portion** of the table is **compared** with the two join tables to **generate** two intermediate results files. A final **results** file is **generated** from the **two** intermediate **results files** . The **portions** of the **two database tables** on a node are stored in equal portions. Post-processing operations are executed on the...
DESCRIPTION - An INDEPENDENT CLAIM is included for a distributed database system for processing a **database** query command in which **database tables** are stored on nodes, **different portions** of **database table** stored on **two** of the nodes...

...a superior performance of high-speed distributed computing system in a clustered environment. The method **makes** the distributed computing system to return processing **results** to a requestor in significantly reduced times...

Title Terms.../Index Terms/Additional Words: **COMPARE** ;

Original Publication Data by Authority

Original Abstracts:
...the distributed computing system returns processing results to the requestor in significantly reduced times as **compared** to conventional computing systems.
Claims:
...system in which a plurality of database tables are stored on a plurality of nodes, **different** portions of at least **one database table** being stored on at least **two** of the nodes, the method comprising:storing a **first** portion of a first database table and a first portion of a second database table on a first node, and storing a **second portion** of a first **database table** and a **second** portion of a **second database table** on a **second** node; **determining** a join table definition in response to a query command, said **join** table definition identifying a subset of said first database table to include in executing said...

...said first database table in accordance with said join table definition, and generating a second **join table** from said **second** portion of said

first **database table** in accordance with said **join table** definition;transmitting said first **join** table to said **second** node, and transmitting said second join table to said **first** node;comparing said first portion of said second database table with said first join table...

...first portion of said second database table with said second join table, and comparing said **second** portion of said **second database table** with said **first join table** to **generate** a **second** intermediate **results** file; andgenerating a final results file from said first intermediate results file and said...

15/69,K/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0012839768 - Drawing available
WPI ACC NO: 2002-698151/200275
XRPX Acc No: N2002-550581
Optimal correlation order determination **method used in SQL database system, involves selecting correlation order having most favorable cost strategy**
Patent Assignee: PAULLEY G N (PAUL-I); SYBASE INC (SYBA-N)
Inventor: PAULLEY G N
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20020116357	A1	20020822	US 1999169547	P	19991207	200275	B
			US 2000732499	A	20001206		
US 6516310	B2	20030204	US 2000732499	A	20001206	200313	E

Priority Applications (no., kind, date): US 1999169547 P 19991207; US 2000732499 A 20001206

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020116357	A1	EN	19	6	Related to Provisional US 1999169547

Alerting Abstract US A1
NOVELTY - An initial correlation order specifying sequence for accessing **one** or more **tables** , is established between **two** **database** in response to a requested query. The correlation order is selected, if its cost strategy is favorable.
USE - For **determining** optimal correlation order in relation database system e.g SQL database system.
ADVANTAGE - Since the correlation order is selected based on the cost strategy, optimal correlation order is **determined** and complex queries are optimized efficiently.
DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the computer system.

Title Terms/Index Terms/Additional Words: OPTIMUM; CORRELATE; ORDER; **DETERMINE** ; METHOD; SQL; DATABASE; SYSTEM; SELECT; FAVOUR; COST; STRATEGY

Class Codes
International Classification (Main): G06F-017/30, G06F-007/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4P

Optimal correlation order determination **method used in SQL database system, involves selecting correlation order having most favorable cost strategy**

Alerting Abstract ...NOVELTY - An initial correlation order specifying sequence for accessing **one** or more **tables** , is established between **two** **database** in response to a requested query. The correlation order is selected, if its cost strategy...
USE - For **determining** optimal correlation order in relation database system e.g SQL database system...

...Since the correlation order is selected based on the cost strategy, optimal correlation order is **determined** and complex queries are optimized efficiently...

Title Terms.../Index Terms/Additional Words: **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
A small-footprint relational database system providing a **deterministic** join enumeration methodology for left-deep processing trees is described. By providing a **deterministic** branch-and-bound join enumeration method for left-deep processing trees, the invention is able...

...recalls the cheapest strategy and constructs the detailed access plan for that strategy. Empirical performance **results** on several **production** queries show that this approach requires significantly less memory than other **deterministic** join enumeration approaches, which have been described in the literature...

...A small-footprint relational database system providing a **deterministic** join enumeration methodology for left-deep processing trees is described. By providing a **deterministic** branch-and-bound join enumeration method for left-deep processing trees, the invention is able...
...recalls the cheapest strategy and constructs the detailed access plan for that strategy. Empirical performance **results** on several **production** queries show that this approach requires significantly less memory than other **deterministic** join enumeration approaches, which have been described in the literature.
Claims:
What is claimed is: b 1 /b . In a relational database system, a method for **determining** an optimal join order for use in an access plan employed for executing a database query, the method comprising:receiving a query specifying at least **one** **join** condition between **two** or more **database** **tables** ;establishing an **initial** **join** order, based on each table's size and join predicates between the tables, said initial...

...table and one or more subsequent join positions specifying one or more successive inner tables; **determining** a strategy cost for satisfying the query using a query access plan that employs said...

...positions of the join order and proceeding to be outermost position of the join order, **evaluating** other candidate join orders by swapping ordering of tables at a given position with those at subsequent positions and thereafter **determining** the cost strategy for that join order; andif a given candidate join order under...
...What is claimed is:1. In a relational database system, a **method** for determining an optimal join order for use in an access plan employed for executing a database query, the method comprising:receiving a query specifying **at** **least** one join **condition** between two **or** **more** database tables; **establishing** **an** initial join order, based on each table's size and join predicates between the tables...

...an outer table and one or more subsequent join positions specifying one or more successive **inner** tables;determining a strategy cost for satisfying the query using a query access plan that...

...the innermost positions of the join order and proceeding to be outermost position of the **join** order,evaluating other candidate join orders by

swapping ordering of tables at a given position with those at subsequent positions **and** thereafter determining the cost strategy for that join order; andif a given candidate join...

15/69,K/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0011129158 - Drawing available
WPI ACC NO: 2002-065646/200209
Related WPI Acc No: 1998-209796; 1998-209797; 1998-350590; 2000-507549; 2000-627641; 2001-578747; 2002-048423; 2002-236205
XRPX Acc No: N2002-048760

Electronic design compilation method for e.g. integrated circuit, involves creating variation design by applying variation assignment to group of logic functions that are not provided in assignment data of base design

Patent Assignee: ALTERA CORP (ALTE-N)
Inventor: HEILE F B; RAWLS T V

Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6321369	B1	20011120	US 199629277	P	19961028	200209 B
			US 1997958626	A	19971027	

Priority Applications (no., kind, date): US 199629277 P 19961028; US 1997958626 A 19971027

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6321369	B1	EN	24	10	Related to Provisional US 199629277

Alerting Abstract US B1

NOVELTY - A variation design is created by applying variation assignment to group of logic functions, which specifies one of style, logic option, clique assignment, position and timing requirements, family, device, speed grade and global default parameter that are not provided in the assignment data of a base design. Using a GUI, the base and variation designs are selected for compilation, and the compiled design is output to respective files.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.Electronic design designing apparatus;

2.Design tool;

3.Computer readable medium storing data structure used in computer for electronic circuit designing

USE - For creating and refining electronic design for multiple electronic circuits e.g. multichip module and integrated circuits, programmable logic circuits such as programmable logic arrays and programmable gate arrays, etc.

ADVANTAGE - Provides simple mechanism by allowing designer to efficiently create, maintain and **compare** multiple variations of the design. Provides convenient user interface and associated variation control system. Eliminates the need to create separate programs or scripts that parse through and modify existing design files in an effort to create and compile variation design.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the associated data file that includes both base design and variation changes of the associated data.

Title Terms/Index Terms/Additional Words: ELECTRONIC; DESIGN; COMPILE; METHOD; INTEGRATE; CIRCUIT; VARIATION; APPLY; ASSIGN; GROUP; LOGIC;

FUNCTION; DATA; BASE

Class Codes
International Classification (Main): G06F-017/50

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J12B1; T01-J15A1; T01-J15A2; T01-S03

Alerting Abstract ...ADVANTAGE - Provides simple mechanism by allowing designer to efficiently create, maintain and **compare** multiple variations of the design. Provides convenient user interface and associated variation control system. Eliminates...

Original Publication Data by Authority

Original Abstracts:
A method is provided in which a base design is generated in the form of **one** or more **data files** including assignment data. A variation design is created by **adding** at least **one** additional assignment associated with the variation design to the assignment data. The assignment data has an identifier that is associated with an entity defined within the base design, a **first** data field that can be used in making an assignment to the entity within the...

...for use in making the additional assignment to the entity within the variation design. The **data files** are compiled to generate a base output **file** and **one** or more variation output design files that can include one or more common **result** values. **Comparison** data is **generated** by **comparing** the common **result** values associated with the base design file and the variation design file. A design tool...

...accepting inputs from a user. The selector generates a base design in the form of **one** or more **data files** including assignment data. The variation mechanism generates a variation design by adding at least one...
Claims:
...method comprising:providing a graphical user interface;providing a base design, said base design including **one** or more **data files** including assignment data;creating a variation design by applying at least one variation assignment to...

19/69,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0015387707 - Drawing available
WPI ACC NO: 2005-732284/200575
XRPX Acc No: N2005-602769
Tables **exclusion** join **performing method for use in** database **system, involves performing Boolean operations using bitmap entries of star maps to produce entries in another star map**
Patent Assignee: NCR CORP (NATC)
Inventor: RAMESH B
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6957210	B1	20051018	US 200138783	A	20011231	200575 B

Priority Applications (no., kind, date): US 200138783 A 20011231

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6957210	B1	EN	18	9	

Alerting Abstract US B1

NOVELTY - The method involves performing Boolean operations using bitmap entries of star maps to produce bitmap entries in a star map, where there is a corresponding set bitmap entry in one of the former maps and no corresponding set bitmap entry in the other former map. The latter map is used to **identify** qualifying rows from a table. The **identified** qualifying rows are provided as an exclusion join result.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.a computer program, stored on a tangible storage medium, for performing an exclusion join of two tables

2.a database system for accessing a database , comprising a massively parallel processing system.

USE - Used for performing exclusion **join** of **two tables** , in a **database** system (claimed) that is utilized in e.g. personal computer, mainframe and minicomputer.

ADVANTAGE - The utilization of the star maps improves the performance of exclusion joins that have low join cardinality.

DESCRIPTION OF DRAWINGS - The drawing shows an illustration of a hardware and software environment that is used with **tables** exclusion **join** performing method.

104 Network
108 Data communications units
112 Parallel data extensions
116 Access module processor
118 Partitioned relational **database**

Title Terms/Index Terms/Additional Words: TABLE; EXCLUDE; JOIN; PERFORMANCE ; METHOD; **DATABASE** ; SYSTEM; BOOLEAN; OPERATE; ENTER; STAR; MAP; PRODUCE

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-E02C; T01-J05B3; T01-J05B4M; T01-S03

Tables **exclusion** join **performing method for use in** database **system, involves performing Boolean operations using bitmap entries of star maps to produce entries in...**

Alerting Abstract ...corresponding set bitmap entry in the other former map. The latter map is used to **identify** qualifying rows from a table. The **identified** qualifying rows are provided as an exclusion join result....a computer program, stored on a tangible storage medium, for performing an exclusion **join** of **two tables** a **database** system for accessing a **database** , comprising a massively parallel processing system...

...USE - Used for performing exclusion **join** of **two tables** , in a **database** system (claimed) that is utilized in e.g. personal computer, mainframe and minicomputer...

...The drawing shows an illustration of a hardware and software environment that is used with **tables** exclusion **join** performing method...

...118 Partitioned relational **database**

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method, computer program and **database** system are disclosed for performing an exclusion join of at least a first table T...

...Each Star Map includes bitmap entries having locations indexed by the hash of one or **more** values associated **with** one or more join key **columns** of its associated table. The **method** , computer program, and database **system** include a) performing one or more Boolean operations using the bitmap entries of the Star...

...there is a corresponding set bitmap entry in S b 1 /b and no corresponding set bitmap **entry** in S b 2 /b ; b) using SJ to identify qualifying rows from the first table T...
Claims:
...there is a corresponding set bitmap entry in S b 1 /b and no corresponding set bitmap **entry** in S b 2 /b ;b) using SJ to identify qualifying rows from the first table T...

19/69,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014273261 - Drawing available
WPI ACC NO: 2004-459670/
XRPX Acc No: N2004-364027
Data sorting method in parallel object-relational database **management system, involves sorting of join index according to respective record** identifiers **of** tables **, and performing** join **operation between spatial join attributes**
Patent Assignee: NCR CORP (NATC)
Inventor: ELLMANN C J; LUO G; NAUGHTON J F
Patent Family (1 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 6745198	B1	20040601	US 2001878569	A	20010611	200443 B

Priority Applications (no., kind, date): US 2001878569 A 20010611

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6745198	B1	EN	19	12	

Alerting Abstract US B1
NOVELTY - A join index having record **identifiers** corresponding to the **tables** stored in the **database** , is received. The **join** index is sorted according to **one** of the record **identifiers** and is resorted according to another record **identifier** . The join operation is performed between the spatial join attributes using the resorted portion of the join index.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.data sorting system; and

2.article comprising medium storing data sorting program;

3.computer-implemented method of updating join index; and

4.article comprising medium storing join index updating program.

USE - For sorting data in parallel object-relational **database** management system (ORDBMS).
ADVANTAGE - The join indices provides efficient access to auxiliary relations during joining operations. Hence, the parallel spatial join operations are performed effectively, in the **database** system.
DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the parallel spatial join operation.

Title Terms/Index Terms/Additional Words: DATA; SORT; METHOD; PARALLEL; OBJECT; RELATED; **DATABASE** ; MANAGEMENT; SYSTEM; JOIN; INDEX; ACCORD; RESPECTIVE; RECORD; **IDENTIFY** ; TABLE; PERFORMANCE; OPERATE; SPACE; ATTRIBUTE

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-E01A; T01-J05B4A; T01-J05B4B; T01-J05B4M; T01-S03

Data sorting method in parallel object-relational database **management system, involves sorting of join index according to respective record** identifiers **of** tables **, and performing** join **operation between spatial join attributes**

Alerting Abstract ...NOVELTY - A join index having record **identifiers** corresponding to the **tables** stored in the **database** , is received. The **join** index is sorted according to **one** of the record **identifiers** and is resorted according to another record **identifier** . The join operation is performed between the spatial join attributes using the resorted portion of ...
...USE - For sorting data in parallel object-relational **database** management system (ORDBMS...

...relations during joining operations. Hence, the parallel spatial join operations are performed effectively, in the **database** system...

Title Terms.../Index Terms/Additional Words: **DATABASE** ; ...

... **IDENTIFY** ;

Original Publication Data by Authority

Claims:
What is claimed is: 1. A method for use in a **database** system comprising: receiving a portion of a join index, wherein the join index comprises **first** record identifiers from a first **table** stored in the **database** system and **second** record identifiers from a **second table** stored in the **database** system, wherein the **join** index is sorted according to **first** record **identifiers** from the first table; resorting the portion of the join index according to second record **identifiers** from the second **table** ; and performing **join** operations between first and second spatial join attributes using the resorted portion of the join...

19/69,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010369726 - Drawing available
WPI ACC NO: 2000-685829/200067
Related WPI Acc No: 1999-276580
XRPX Acc No: N2000-506958
Computerized database **query request generating method, involves generating** database **query request including link between fields in tables, using list of fields provided in response to query request information**
Patent Assignee: NETSCAPE COMMUNICATIONS CORP (NETS-N)
Inventor: GUHA R V
Patent Family (1 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 6108651	A	20000822	US 1997925632	A	19970909	200067 B
			US 1999243210	A	19990202	

Priority Applications (no., kind, date): US 1997925632 A 19970909; US 1999243210 A 19990202

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6108651	A	EN	18	15	Continuation of application US 1997925632

Alerting Abstract US A
NOVELTY - A query including conjunction of MCF literal each of which comprising predefined term that defines the relation between fields in table and concept, is received in response to which a list of fields to be queried from respective tables are provided. Using list of fields, a **database** query request which includes link between fields is generated.
DESCRIPTION - An INDEPENDENT CLAIM is also included for heuristic engine.
USE - For generating **database** query request for performing **join** across **tables** in heterogeneous **database** .
ADVANTAGE - Automatically generating **database** query request to perform links across tables in heterogeneous **database** is enabled thereby user is enabled to access the **database** without knowledge of **database** schemes and without the need for management information specialist (MIS) person.
DESCRIPTION OF DRAWINGS - The figure shows flowchart illustrating the method of generating **database** query request.

Title Terms/Index Terms/Additional Words: **DATABASE** ; QUERY; REQUEST; GENERATE; METHOD; LINK; FIELD; TABLE; LIST; RESPOND; INFORMATION
Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-J16C6

Computerized database **query request generating method, involves generating** database **query request including link between fields in tables, using list of fields provided in response...**

Original Titles:
Heuristic co- **identification** of objects across heterogeneous information sources.

Alerting Abstract ...of fields to be queried from respective tables are provided. Using list of fields, a **database** query request which includes link between fields is generated....USE - For generating **database** query request for performing **join** across **tables** in heterogeneous **database** .
...

...ADVANTAGE - Automatically generating **database** query request to perform links across tables in heterogeneous **database** is enabled thereby user is enabled to access the **database** without knowledge of **database** schemes and without the need for management information specialist (MIS) person...

...DESCRIPTION OF DRAWINGS - The figure shows flowchart illustrating the method of generating **database** query request.

Title Terms/Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method and system for generating a **database** query language request for performing a **join** between a plurality of **database tables** including a **first database table** and a second **database table** . The **first table** includes a **first** plurality of fields and the **second database table** includes a **second** plurality of fields, where each one of the plurality of fields has a particular meaning...

...and second fields have the same meaning. After mapping the literals to the expressions, the **database** query language request is generated using the list of fields, such that the **database** query language request includes a join between the first and **second** fields. The **first** and **second tables** are then queried using the **database** query language request to provide the requested information.
Claims:
A computer-implemented method for generating a **database** query request, comprising the steps of:receiving a query requesting information;providing a list of...

...queried, the list of fields including a first field from a first table and a **second** field from a **second table** ;generating a **database** query request using the list of fields, said **database** query request including a join between the first and second fields; andwherein said query...

19/69,K/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008104989 - Drawing available
WPI ACC NO: 1997-203091/199718
Related WPI Acc No: 1997-244711
XRPX Acc No: N1997-167769
First and second **input** table join **for** database **system - involves first input table's records into fast memory for sorting by second table's index and output to first files with second table's indexes written to second files**
Patent Assignee: UNIV COLUMBIA NEW YORK (UYCO)
Inventor: LI Z; ROSS K A
Patent Family (3 patents, 20 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
WO 1997011433	A1	19970327	WO 1996US15221	A	19960919	199718	B
US 5666525	A	19970909	US 1995531789	A	19950921	199742	E
US 5802357	A	19980901	US 1995531789	A	19950921	199842	E
			US 1996632958	A	19960416		

Priority Applications (no., kind, date): US 1995531789 A 19950921; US 1996632958 A 19960416
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 1997011433	A1	EN	117	16	
National Designated States,Original: CA JP					
Regional Designated States,Original: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
US 5666525	A	EN	26	9	
US 5802357	A	EN			C-I-P of application US 1995531789

Alerting Abstract WO A1
The **database** join method involves reading a portion of a join index and the first input table's records **identified** by the read join index into a relatively fast memory. The first table's records are sorted by the second tables index entry in the read join index. The read records from the first input table are written to separate first output files and the second sorted table's index entries are written to second files. These steps are repeated until all portions of the join index are read.
The second output files are merged to a lowest second index table entry which has not been previously **identified** during the join. A record is read from the second input table corresponding to the lowest index entry. The record is placed in an appropriate output buffer. The previous two steps are repeated until all the join index **identifiers** are processed.
ADVANTAGE - Provides efficient **joining** of multiple large **tables** in **database** system using processor with small **main** memory.

Title Terms/Index Terms/Additional Words: FIRST; SECOND; INPUT; TABLE; JOIN ; **DATABASE** ; SYSTEM; RECORD; FAST; MEMORY; SORT; INDEX; OUTPUT; FILE; WRITING

Class Codes
International Classification (Main): G06F-017/30
(Additional/Secondary): G06F-007/22

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4M

First and second **input** table join **for** database **system...**

Original Titles:
System and method for performing an efficient **join** operation on large **tables** with a small main memory...

...PERFORMING EFFICIENT **JOIN** OPERATIONS ON LARGE **TABLES**

Alerting Abstract ...The **database** join method involves reading a portion of a join index and the first input table's records **identified** by the read join index into a relatively fast memory. The first table's records...

...files are merged to a lowest second index table entry which has not been previously **identified** during the join. A record is read from the second input table corresponding to the...

...an appropriate output buffer. The previous two steps are repeated until all the join index **identifiers** are processed...

...ADVANTAGE - Provides efficient **joining** of multiple large **tables** in **database** system using processor with small **main** memory.
Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A technique for efficiently joining multiple large tables in a **database** system with a processor using a small main memory. The technique utilizes a join index...

...A technique for efficiently joining multiple large tables in a **database** system with a processor using a small main memory. The technique utilizes a join index...

...partitions memory to be used for an efficient join operation. The third technique, called parallel- **join** , processes each input **table** completely independently using the parallel-merge technique. The parallel-merge technique **identifies** the lowest value from multiple files and orders all the values from lowest to highest...

...A technique for efficiently joining multiple large tables in a **database** system with a processor using a small main memory. The technique utilizes a join index...

...embodiments are described which all use a parallel-merge operation. The first technique, a slam- **join** , joins two **tables** without a pre-allocation of buffers as buffers (111 and 112) are used latter in...

...three or more tables adding a merge technique which prepartitions memory. The third technique, parallel- **join** , processes each input **table** completely independently. The parallel-merge technique **identifies** the lowest value from multiple files and orders all values from lowest to highest.This...
Claims:
...a plurality of input tables comprised of records stored in a first memory in a **database** system which includes said first memory and a relatively high speed second memory having a...

...A method for **joining** in a **database** system a **first** and **second** input **table** each comprised of records stored in a first memory using a join index, wherein said...

...a) reading a portion of said join index and said first input table's records **identified** by said read join index into a second, relatively fast main memory;(b) sorting said...

...until all portions of said join index are read;(e) merging said second files to **identify** a lowest second table index entry from said second files, wherein said lowest index entry has not yet been previously been **identified** during said joining method, and reading a record from said second input table that corresponds...

...appropriate output buffer; and(g) repeating steps (e) and (f) until all the join index **identifiers** are processed.

19/69,K/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0007265871
WPI ACC NO: 1995-322699/
XRPX Acc No: N1995-242922
Database **join processing system - joins relations based on join fields in relational** database
Patent Assignee: MITSUBISHI DENKI KK (MITQ); MITSUBISHI ELECTRIC CORP (MITQ)
Inventor: MATSUMOTO T
Patent Family (4 patents, 3 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
GB 2287807	A	19950927	GB 19952768	A	19950213	199542	B
JP 7253991	A	19951003	JP 199445620	A	19940316	199548	E
US 5613142	A	19970318	US 1995388616	A	19950214	199717	E
GB 2287807	B	19980506	GB 19952768	A	19950213	199820	E

Priority Applications (no., kind, date): JP 199445620 A 19940316

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
GB 2287807	A	EN	124	23	
JP 7253991	A	JA	24		
US 5613142	A	EN	48	23	

Alerting Abstract GB A

The system joins distributed data with a join key and produces a joined table (100,200). Recording devices, disk drives (4a-4d) store the distributed data e.g. employee data (5a-5d) and sales data (6a-6d). Slave-processors (3a-3d) are coupled to the recording devices to retrieve the data and output the data. The main processor (1) receives the data from the slave-processors and produces the joined table.

Each slave-processor **checks** a join key of the second data, sales data, with a join key of the first data. Based on the **checking** result it selects the second data (400a-400d) and outputs the data to the main processor.

USE/ADVANTAGE - Provides high speed joining, eliminates burden on master processor as data distributed and stored in slave processors, part of join processing done in parallel.

Title Terms/Index Terms/Additional Words: **DATABASE** ; JOIN; PROCESS; SYSTEM ; RELATED; BASED; FIELD

Class Codes
International Classification (Main): G06F-017/30, G06F-007/08, G06F-007/32
(Additional/Secondary): G06F-012/00, G06F-012/04, G06F-007/14, G06F-007/36

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05A; T01-J05B4

Database **join processing system...**

...joins relations based on join fields in relational database

Original Titles:
...Join processing system and method for joining relations based on join

fields in a relational **database** .

Alerting Abstract ...Each slave-processor **checks** a join key of the second data, sales data, with a join key of the first data. Based on the **checking** result it selects the second data (400a-400d) and outputs the data to the main...

Title Terms/Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
...and method, which operates efficiently without a burden to a master processor, in a relational **database** on a multiprocessor. In a system which includes a master processor, multiple slave processors and...

...sub-table. The master processor merges the second sub-tables, and creates a second main **table** . Then, a **join** processing of the first main table and the second main table is performed.
Claims:
...Each slave-processor **checks** a join key of the second data, sales data, with a join key of the first data. Based on the **checking** result it selects the second data (400a-400d) and outputs the data to the main...

...first join key, the second data including a second join key and produces a joined **table** , the **join** processing system comprising: (a) a plurality of recording means for storing the distributed first and...
...with the first join key from the respective recording means and produces a first sub- **table** including the first **join** key based on the first data including a predetermined value, and transfers the first subtable...

...means receives the second sub-table from the plurality of sub-processor means, produces a **second main table** , **joins** the first and **second data based** on the first and **second main tables** , and produces the **joined** table.

19/69,K/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0005637643 - Drawing available
WPI ACC NO: 1991-247345/199134
XRPX Acc No: N1991-188595
Joining selected data in tables of relational data base system - by defining first parameter, selecting data in first table, placing in sub-table, defining second parameter and selecting second data
Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC)
Inventor: CHENG J M; CHENG J M K; HADERLE D J; HARDERLE D J; HEDGES R W; IYER B R; MOHAN C; WANG Y

Patent Family (3 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 442684	A	19910821	EP 1991301085	A	19910211	199134	B
US 5241648	A	19930831	US 1990479523	A	19900213	199336	E
JP 3104708	B2	20001030	JP 199114755	A	19910114	200057	E

Priority Applications (no., kind, date): US 1990479523 A 19900213

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 442684	A	EN			
Regional Designated States,Original: DE FR GB					
US 5241648	A	EN	13	5	
JP 3104708	B2	JA	14		Previously issued patent JP 04213765

Alerting Abstract EP A

The method for **joining** selected data in **two tables** (12,10) in a relational **data base** system which involves defining a **first** parameter (35), selecting data in the first table which satisfies the first parameter and placing such selected data in order in a first sub-table (38). A second parameter is defined and data is selected in the second table which satisfies the second parameter.

Selecting data which satisfies the second parameter involves defining a preliminary parameter based on the data in the first sub-table. Data in the second table is selected which satisfies the preliminary parameter and placed in order in a second sub table (45). Data in the second sub table which satisfies the second parameter is selected and combined with the data in the first sub **table** so as to **join** the selected data in the first and second tables (50).

ADVANTAGE - Highly efficient I/O operations. @(14pp Dwg.No.5/5)@

Equivalent Alerting Abstract US A

The machine-executed method for **joining two** relational **database tables** involves **comparing** the rows of the first table with a local predicate and retrieving rows of the first table which satisfy the local predicate and entering the rows into a sort table. The rows of the sort table are ordered by joining column values and retrieving, from the index, **identifiers** of rows of the second **table** having **join** column values satisfying a join predicate and entering the **identifiers** in a row index (RID) list.

Rows matching the **identifiers** are retrieved. The rows of the sort table are **compared** with a local predicate and combined with the rows retrieved to produce composite rows satisfying the local predicate and entering the composite rows in an intermediate result table.

USE/ADVANTAGE - **Database** management. Safe joining technique. Highly

efficient I/O.

Title Terms/Index Terms/Additional Words: JOIN; SELECT; DATA; TABLE; RELATED; BASE; SYSTEM; DEFINE; FIRST; PARAMETER; PLACE; SUB; SECOND

Class Codes
International Classification (Main): G06F-015/40, G06F-017/30 (Additional/Secondary): G06F-012/00
File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B

Alerting Abstract ...The method for **joining** selected data in **two tables** (12,10) in a relational **data base** system which involves defining a **first** parameter (35), selecting data in the first table which satisfies the first parameter and placing...

...satisfies the second parameter is selected and combined with the data in the first sub **table** so as to **join** the selected data in the first and second tables (50...

Equivalent Alerting Abstract ...The machine-executed method for **joining two** relational **database tables** involves **comparing** the rows of the first table with a local predicate and retrieving rows of the...

...of the sort table are ordered by joining column values and retrieving, from the index, **identifiers** of rows of the second **table** having **join** column values satisfying a join predicate and entering the **identifiers** in a row index (RID) list...

...Rows matching the **identifiers** are retrieved. The rows of the sort table are **compared** with a local predicate and combined with the rows retrieved to produce composite rows satisfying...

...USE/ADVANTAGE - **Database** management. Safe joining technique. Highly efficient I/O.

Original Publication Data by Authority

Original Abstracts:
The invention relates to a method for joining selected data in **first** and **second tables** (12, 10) in a relational **data base** system which comprises defining a **first** parameter (35), selecting data in the first table which satisfies the first parameter and placing...

...the second parameter, and combining such selected data with the data in the first sub- **table** so as to **join** the selected data in the first and second tables (50). /br The invention also relates to...

...ordering on the join column of the first table. First, the index on the inner **table** 's **join** column is **scanned** for rows of the inner **table** having **join** column values matching such values of rows in the outer table. This is done in a single pass through the outer table. Next, a temporary work table containing the **identifiers** of inner **table** rows having **join** column values matching those of the outer table is produced by concatenating the row **identifiers** to their matching outer table rows. Following this, the temporary work table is ordered by the **identifiers** . Last, the **identifier** list of inner table rows is used to retrieve the corresponding rows of the inner...

Claims:
1. A method for joining selected data in **first** and **second** **tables** (12, 10) in a relational **data** **base** system comprising /br defining a **first** parameter (35), /br selecting data in said first table which satisfies said first parameter and placing...

...said second parameter, and combining such selected data with the data in said first sub- **table** so as to **join** the selected data in said first and second tables (50...

...A machine-executed method for **joining** **first** and **second** **tables** of a relational **database** system, the system including an index on a **join** column of the **second** **table** , the method comprising the relational **database** system-performed steps of: (a) **comparing** the rows of the first table with a local predicate; (b) retrieving rows of the...

...and entering the rows into a sort table; (c) ordering the rows of the sort **table** by **join** column values; (d) retrieving, from the index, **identifiers** of rows of the second **table** having **join** column values satisfying a join predicate and entering the **identifiers** in a row index (RID) list; (e) retrieving, from the second table, rows matching the **identifiers** of step (d); and (f) combining the rows of the sort table with the rows...

23/69,K/3 (Item 3 from file: 350)
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0013940645 - Drawing available
WPI ACC NO: 2004-120963/
Related WPI Acc No: 2004-820662
XRPX Acc No: N2004-096831
Optimal query execution plan construction method for database **management system, involves** determining **favorable access plan for each subplan of identified query block**
Patent Assignee: SYBASE INC (SYBA-N)
Inventor: NICA A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040006561	A1	20040108	US 2002392479	P	20020629	200412 B
			US 2003600932	A	20030620	

Priority Applications (no., kind, date): US 2002392479 P 20020629; US 2003600932 A 20030620

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040006561	A1	EN	34	8	Related to Provisional US 2002392479

Alerting Abstract US A1

NOVELTY - Each query block is identified within the received query specifying **join** conditions between **database tables** . The subplans are created based on grouping portions of query blocks. The favorable access plans are **determined** for subplans based on estimated execution costs. The optimal access plan is generated for each query block based on favorable access plans for constructing the optimal query execution plan.

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.method for generating bushy trees during optimization of database query;

2.method for optimizing executing of query.

USE - For constructing optimal query execution plan in **database** management system (**DBMS**) which is version 8.0 of **sybase adaptive server anywhere** (ASA) implemented in international business machine (IBM) - compatible personal computer (PC) or server computer, and for use in workgroup, mobile and embedded applications.

ADVANTAGE - Requires minimal memory as only the information about the best access plan are stored.

DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the client/server **database** system.

330 server
361 parser
363 normalizer
365 compiler
369 execution unit

Title Terms/Index Terms/Additional Words: OPTIMUM; QUERY; EXECUTE; PLAN; CONSTRUCTION; METHOD; **DATABASE** ; MANAGEMENT; SYSTEM; **DETERMINE** ; FAVOUR ; ACCESS; IDENTIFY; BLOCK

Class Codes

International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05A; T01-J05B3; T01-J05B4P; T01-N02A3C; T01-N03A2; T01-S03

Optimal query execution plan construction method for database **management system, involves** determining **favorable access plan for each subplan of identified query block**

Alerting Abstract ...NOVELTY - Each query block is identified within the received query specifying **join** conditions between **database tables** . The subplans are created based on grouping portions of query blocks. The favorable access plans are **determined** for subplans based on estimated execution costs. The optimal access plan is generated for each...
...method for generating bushy trees during optimization of **database** query; method for optimizing executing of query...

...USE - For constructing optimal query execution plan in **database** management system (**DBMS**) which is version 8.0 of b sybase adaptive server anywhere /b (ASA) implemented in international business...

...DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the client/server **database** system...

Title Terms.../Index Terms/Additional Words: **DATABASE** ; ...

... **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
...bushy trees using a left-deep tree join enumeration strategy for optimizing execution of a **database** query is described. In response to receipt of a query specifying at least **one join** condition between **two** or more **database tables** , each query block comprising an atomic portion of the query is identified and subplans are...

...based on grouping portions of each query block. At least one favorable access plan is **determined** for each subplan of each query block based, at least in part, on estimated execution...

...plan for each query block is generated based upon at least one favorable access plan **determined** for each subplan. A query execution plan is then constructed based upon the optimal access...
Claims:
What is claimed is: b 1 /b . In a **database** system, a method for constructing an optimal query execution plan for executing a query, the method comprising: receiving a query specifying at least **one join** condition between **two** or more **database tables** ; identifying each query block within said query, each query block comprising an atomic portion of ...

...query; creating subplans for each query block based on grouping portions of each query block; **determining** at least one favorable access plan for each subplan of each query block, said at least one favorable access plan **determined** based at least in part on estimated execution costs; generating an optimal access plan for each query block based upon said at least one favorable access plan **determined** for each subplan; and constructing an

optimal query execution plan based upon said optimal access...

23/69,K/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013658564 - Drawing available
WPI ACC NO: 2003-754746/
XRPX Acc No: N2003-604706
Query processing method in data management system, involves processing query without joining tables if it is determined **not to** join **the** tables
Patent Assignee: ORACLE INT CORP (ORAC-N)
Inventor: GE F; JAKOBSSON H; MOZES A; WITKOWSKI A
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6615206	B1	20030902	US 2001326346	P	20010928	200371 B
			US 2002378841	P	20020507	
			US 2002186461	A	20020628	

Priority Applications (no., kind, date): US 2002378841 P 20020507; US 2001326346 P 20010928; US 2002186461 A 20020628

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6615206	B1	EN	23	7	Related to Provisional US 2001326346
					Related to Provisional US 2002378841

Alerting Abstract US B1
NOVELTY - The method involves **determining** whether the tables are to be joined based on columns of the product **table** and **join** index in store **table** for an index key column. The query is processed without joining the tables if it is **determined** not to **join** the **tables** .
DESCRIPTION - An INDEPENDENT CLAIM is also included for computer readable medium storing query processing program.
USE - For processing query in **database** management system (**DBMS**).
ADVANTAGE - Allows substantial savings in consumption of computational resources, thereby avoiding one or more joins.
DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining **table join** avoiding method.

Title Terms/Index Terms/Additional Words: QUERY; PROCESS; METHOD; DATA; MANAGEMENT; SYSTEM; JOIN; TABLE; **DETERMINE**

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

...processing method in data management system, involves processing query without joining tables if it is determined **not to** join **the** tables

Original Titles:
Techniques for eliminating **database** table joins based on a join index

Alerting Abstract ...NOVELTY - The method involves **determining** whether the tables are to be joined based on columns of the product **table** and **join** index in store **table** for an index key column. The query is processed without joining the tables if it is **determined** not to **join**

the **tables** . ...USE - For processing query in **database** management system (**DBMS**).

...

...DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining **table** **join** avoiding method.

Title Terms.../Index Terms/Additional Words: **DETERMINE**
Original Publication Data by Authority

Original Abstracts:
Techniques for processing, in a **database** management system, a query referencing a plurality of **tables** of a **database** include **determining** whether a **join** should be performed between a **first** table and a second table. The **determination** is based on a particular set of one or more columns of the second table...

...the first table for an index key column from the second table. If it is **determined** that the join should not be performed, the query is processed without performing the **join** between the first **table** and the second table. By avoiding one or more joins, substantial savings in the consumption...

Claims:
What is claimed is: 1. A method for processing, in a **database** management system, a query referencing a plurality of tables of a **database** , the method comprising: **determining** whether a join should be performed between a first table of the plurality of tables...

...a join index on the first table for an index key column from the second **table** , wherein a **join** should be performed if: a particular column in the particular set is not an index...

...a join condition for the query that matches the join index; and if it is **determined** that the join should not be performed, processing the query without performing the **join** between the first **table** and the second table.

23/69,K/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013647174 - Drawing available
WPI ACC NO: 2003-743135/200370
Related WPI Acc No: 2003-438418; 2004-689502; 2005-028639
XRPX Acc No: N2003-595026
Processing method of statement that specifies join between objects of relational database **tables in computer system, involves performing multi-level partitioning of** database **objects using different criteria at various levels**
Patent Assignee: ORACLE INT CORP (ORAC-N)
Inventor: DAGEVILLE B; ZAIT M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6609131	B1	20030819	US 1999406482	A	19990927	200370 B

Priority Applications (no., kind, date): US 1999406482 A 19990927

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6609131	B1	EN	13	4	

Alerting Abstract US B1

NOVELTY - A **database** object is divided into partitions based on primary criteria and each of the resulting partitions is divided into sub-partitions based on secondary criteria. The two data sub-sets obtained by partitioning respective **database** objects, are distributed to corresponding slave process based on secondary criteria. The slave process perform a join between the two data sub-sets.

DESCRIPTION - An INDEPENDENT CLAIM is also included for recorded medium storing program for processing a statement that specifies a join between the two **database** objects.

USE - For processing statement that specifies **join** between **two** objects of relational **database tables** within computer system using **join** key.

ADVANTAGE - The overhead associated with performing a parallel data manipulation operation on a partitioned object is reduced, using the partitions of object as the sub-sets of data for distribution to slave process.

DESCRIPTION OF DRAWINGS - The figure shows a block diagram of the computer system.

Title Terms/Index Terms/Additional Words: PROCESS; METHOD; STATEMENT; SPECIFIED; JOIN; OBJECT; RELATED; **DATABASE** ; TABLE; COMPUTER; SYSTEM; PERFORMANCE; MULTI; LEVEL; PARTITION; CRITERIA; VARIOUS

Class Codes
International Classification (Main): G06F-017/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4B; T01-J05B4M; T01-S03

Processing method of statement that specifies join between objects of relational database **tables in computer system, involves performing multi-level partitioning of** database **objects using different criteria at various levels**

Alerting Abstract ...NOVELTY - A **database** object is divided into partitions based on primary criteria and each of the resulting partitions ...

...sub-partitions based on secondary criteria. The two data sub-sets obtained by partitioning respective **database** objects, are distributed to corresponding slave process based on secondary criteria. The slave process perform...
...recorded medium storing program for processing a statement that specifies a join between the two **database** objects...

...USE - For processing statement that specifies **join** between **two** objects of relational **database** **tables** within computer system using **join** key...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
...In particular techniques are provided for performing multiple-dimension partitioning. In multiple-dimension partitioning, a **database** object is divided into partitions based on one criteria, and each of those resulting partitions...

...of dimensions. Entirely different partitioning techniques may be used for each level of partitioning. The **database** server takes advantage of partitions when processing queries that include joins. In particular, techniques are...

...partial parallel partition-wise join. In a partial parallel partition-wise join, one of the **join** **tables** is statically partitioned on the join key and another **join** **table** is dynamically partitioned in a way that corresponds to the partition criteria of the statically partitioned table. In a full parallel partition-wise **join** , both of the **tables** involved in the **join** have already been statically partitioned based on the same criteria. The join operation is performed...
Claims:
...said first object, including performing the steps of:inspecting partitioning metadata based on said statement **to** determine that the second level of static partitioning of said first object, and not said...

23/69,K/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013441088 - Drawing available
WPI ACC NO: 2003-532179/200350
Related WPI Acc No: 2003-405577
XRPX Acc No: N2003-422309
Tables joining method for database **system, involves skipping partial group-by operations in response to data elements in data structure**
Patent Assignee: NCR INT INC (NATC); PHAM S (PHAM-I); PHAM T K (PHAM-I); NCR CORP (NATC)
Inventor: PHAM S; PHAM T K
Patent Family (3 patents, 32 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030078909	A1	20030424	US 2001967561	A	20010928	200350	B
			US 2002259070	A	20020927		
EP 1403788	A2	20040331	EP 2003255226	A	20030823	200424	E
US 7062481	B2	20060613	US 2001967561	A	20010928	200639	E
			US 2002259070	A	20020927		

Priority Applications (no., kind, date): US 2001967561 A 20010928; US 2002259070 A 20020927
Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030078909	A1	EN	27	16	C-I-P of application US 2001967561
EP 1403788	A2	EN			
Regional Designated States,Original: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
US 7062481	B2	EN			C-I-P of application US 2001967561
					C-I-P of patent US 6757677

Alerting Abstract US A1
NOVELTY - A predefined data structure and tables are stored. The skipping of partial group-by operation, is **determined** in response to data elements in the data structure.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.article comprising computer- readable medium storing tables joining program; and

2. database system.

USE - For joining tables in **database** system (claimed) using structured query language (SQL).
ADVANTAGE - Enhances efficiency by skipping partial group operations in response to certain predefined conditions. Reduces number of rows of base tables and intermediate spools, by performing partial group-by operations, thereby reducing processing required to perform join query plan.
DESCRIPTION OF DRAWINGS - The figure shows the block diagram of database system.

Title Terms/Index Terms/Additional Words: TABLE; JOIN; METHOD; **DATABASE** ; SYSTEM; SKIP; GROUP; OPERATE; RESPOND; DATA; ELEMENT; STRUCTURE

Class Codes
International Classification (Main): G06F-017/30, G06F-007/00
International Classification (+ Attributes)
IPC + Level Value Position Status Version

G06F-0017/30 A I F B 20060101

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05E; T01-J05B4M; T01-S03

Tables joining method for database **system, involves skipping partial group-by operations in response to data elements in data structure**

Alerting Abstract ...predefined data structure and tables are stored. The skipping of partial group-by operation, is **determined** in response to data elements in the data structure....article comprising computer- readable medium storing tables joining program; and **database** system...

...USE - For joining tables in **database** system (claimed) using structured query language (SQL...

...DESCRIPTION OF DRAWINGS - The figure shows the block diagram of **database** system.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A **database** system includes a storage that contains plural tables as well as a predefined data structure. The **database** system is able to, in response to a join query, perform a **join** of **two** or more **tables** . The **database** system also is able to **determine** , based on values contained in the predefined data structure, whether a group-by operation can...
...A **database** system includes a storage that contains plural tables as well as a predefined data structure. The **database** system is able to, in response to a join query, perform a **join** of **two** or more **tables** . The **database** system also is able to **determine** , based on values contained in the predefined data structure, whether a group-by operation can...

...A **database** system includes a storage that contains plural tables as well as a predefined data structure. The **database** system is able to, in response to a join query, perform a **join** of **two** or more **tables** . The **database** system also is able to **determine** , based on values contained in the predefined data structure, whether a group-by operation can...
Claims:
A method of joining tables, for use in a **database** system, the method comprising: storing a predefined data structure and plurality of **tables** ; performing a **join** plan that involves said tables; and including the step of **determining** if a first group-by operation can be skipped in response to data elements in...

...What is claimed is: b 1 /b . A method for use in a **database** system, comprising: storing a predefined data structure and plural **tables** ; performing a **join** plan that involves the plural tables; and **determining** if a first group-by operation can be skipped in response to data elements in...

...What is claimed is:1. A method for use in a **database** system, comprising: storing a predefined data structure and plural **tables** ;performing a **join** plan that involves the plural tables; anddetermining if a first group-by operation can...

23/69,K/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010868937
WPI ACC NO: 2001-488195/200153
XRPX Acc No: N2001-361261
Hybrid hash join **process for searching** databases , **involves** joining **data rows from** two tables **having common column data**
Patent Assignee: UNISYS CORP (BURS)
Inventor: BAERENWALD L L; JENDE M S; LIU L H; PLASEK J M; YONEDA K
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6263331	B1	20010717	US 1998135313	A	19980730	200153 B

Priority Applications (no., kind, date): US 1998135313 A 19980730

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6263331	B1	EN	23	10	

Alerting Abstract US B1

NOVELTY - A hybrid hash join process joins data rows from two tables that have common data column by partitioning the data rows based on the values in the common data columns. The tables are defined as outer and inner dependent on size.

DESCRIPTION - The smaller outer table's hit rows are partitioned into outer partitions based on common column data. The outer hit row is stored in an outer buffer logically linked to the assigned outer partition. The outer hit rows are joined with inner hit rows from the partitioned inner table, based on column data, so there is a one-to-one correspondence between the outer and inner partitions. The inner hit row is stored in an inner buffer. The outer partition is searched when the inner buffer is full by allocating each outer hit row to a data entry based on the value of the common column of the outer hit row. The data structure is searched for a matching outer hit row for each inner hit row in the full inner buffer. Any matching hit rows are outputted.

INDEPENDENT CLAIMS are made for:

1.A computer program for joining data rows from two tables that have common column data.

2.A hybrid hash join process for joining data rows from two tables.

USE - Hash joining process searches in relational **database** systems.

ADVANTAGE - Data structures decrease the data search time for matching rows and recovering from full data buffers by using other buffer space.

Title Terms/Index Terms/Additional Words: HYBRID; HASH; JOIN; PROCESS; SEARCH; DATA; ROW; TWO; TABLE; COMMON; COLUMN

Class Codes
International Classification (Main): G06F-017/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-C07C2; T01-F05E; T01-J05B2B; T01-J05B3; T01-J05B4; T01-J05B4B

Hybrid hash join **process for searching** databases , **involves** joining

data rows from two tables **having common column data**

Alerting Abstract ...USE - Hash joining process searches in relational **database** systems...

Original Publication Data by Authority

Original Abstracts:
...as an outer table and a larger one of the two tables as an inner **table** . The hybrid hash **join** process **determines** which rows in the inner and outer tables satisfy a selection criteria; the rows that...

23/69,K/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009533518 - Drawing available
WPI ACC NO: 1999-478288/199940
XRPX Acc No: N1999-356022
Duplicate tuples elimination method in database **management system**
Patent Assignee: SYBASE INC (SYBA-N)
Inventor: HILLEGAS R
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5937401	A	19990810	US 1996757367	A	19961127	199940 B

Priority Applications (no., kind, date): US 1996757367 A 19961127

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5937401	A	EN	15	2	

Alerting Abstract US A
NOVELTY - The query for generating the tuple stream satisfying the selection criteria is executed, by scanning the selected **database** tables (250) according to the **determined** join order. The inner most table is scanned, thereby executing the filter which filters the duplicate tuples from the tuple stream.
DESCRIPTION - A received query specifies the selection criteria for the information of interest from the **database** system. The **determined** join order indicates the innermost and outermost **tables** of the selected **join** so as to guarantee that the tuples will stream in order during scanning of the query. A filter is initialized at the outermost table for key columns to pass the initial tuple encountered from which an initial key is constructed. On execution the tuples having keys already encountered in the tuple stream are discarded by the filter attached to the innermost table.
USE - For eliminating duplicate tuples in a generated tuple stream in a **database** management system.
ADVANTAGE - The duplicate tuples are eliminated from the tuple stream without the need for performing an expensive sort operation by the described method.
DESCRIPTION OF DRAWINGS - The figure is a block diagram of a client-server system with the duplicate tuples elimination method.
250 **Database** tables

Title Terms/Index Terms/Additional Words: DUPLICATE; ELIMINATE; METHOD; **DATABASE** ; MANAGEMENT; SYSTEM
Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B

Duplicate tuples elimination method in database **management system**

Original Titles:
Database system with improved methods for filtering duplicates from a tuple stream.

Alerting Abstract ...for generating the tuple stream satisfying the

selection criteria is executed, by scanning the selected **database** tables (250) according to the **determined** join order. The inner most table is scanned, thereby executing the filter which filters the...
DESCRIPTION - A received query specifies the selection criteria for the information of interest from the **database** system. The **determined** join order indicates the innermost and outermost **tables** of the selected **join** so as to guarantee that the tuples will stream in order during scanning of the...

...USE - For eliminating duplicate tuples in a generated tuple stream in a **database** management system...

...250 **Database** tables

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A Client/Server **Database** system is described which includes a **Database** Server providing methods eliminating duplicates from an ordered tuple stream (e.g., resulting from a query involving a **database** "join"), without the need for performing an expensive sort operation. Specifically, the system provides a...
Claims:
In a **database** system storing a plurality of **database** tables, each **database** table comprising a plurality of tuples storing columns of information, each column representing a particular...

...method comprising:receiving a query specifying selection criteria for selecting information of interest from the **database** system, said query specifying that said information of interest is to be selected by a **database** join operation which **joins** selected ones of said **database tables** by **one** or more columns shared between tables (key columns), said query further specifying that the particular information is to be returned as distinct tuples; **determining** a join order specifying a sequence indicating how said selected ones of said **database** tables are to be preferentially scanned by the system for **determining** which tuples of each said selected ones of said **database tables** qualify, said **join** order indicating innermost and outermost **tables** of the **join** and being selected so as to guarantee that tuples will stream in order during execution...

...a tuple stream satisfying said selection criteria, said executing step including scanning, according to said **determined** join order, said selected ones of said **database** tables; andas the innermost table is scanned, executing the filter for filtering duplicate tuples...

23/69,K/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008690861 - Drawing available
WPI ACC NO: 1998-230173/199820
XRPX Acc No: N1998-182323
CASE-based relational database **access consistency system - includes logical to physical data mapping and** join tables **with queries formed using data mapping and** join **criteria** tables
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: KINGBERG D G; MARTIN W J; MCCUBBIN E M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5734887	A	19980331	US 1995536737	A	19950929	199820 B

Priority Applications (no., kind, date): US 1995536737 A 19950929

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5734887	A	EN	50	16	

Alerting Abstract US A

The **database** access system includes one or more applications having a logical data access interface for requesting data access according to a logical data model. The data model has numerous interrelated logical entity types each with numerous logical attributes. A **RDBMS** contains numerous physical tables derived from the logical data model, each having numerous columns. A logical to physical data mapping table maps each logical entity type and logical attribute pair to a physical table name and a physical column name as stored in the **RDBMS** .

A **join table** has a **join** entry for each logical entity type represented by more than **one** physical **table** in the **RDBMS** . Each **join** entry identifies the physical **tables** and columns to **join** , and the join criteria necessary to form the logical entity type represented by the join entry. A logical data access module receives a logical **database** request from a requesting application via it's logical data interface. One or more **database** queries having physical table and physical column names are formed using the logical to physical data mapping and **join** criteria **tables** .

ADVANTAGE - Allows change in physical structure of **database** tables without changing client applications. Allows DBA to tune **database** without changing client applications. Application can update views without knowing physical table names used in constructing view. Permits re-engineering **database** for maximum performance without modifying applications. Provides logical views without knowing join criteria.

Title Terms/Index Terms/Additional Words: CASE; BASED; RELATED; **DATABASE** ; ACCESS; CONSISTENCY; SYSTEM; LOGIC; PHYSICAL; DATA; MAP; JOIN; TABLE; QUERY; FORMING; CRITERIA

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4B; T01-J05B4M

...includes logical to physical data mapping and join tables **with queries formed using data mapping and** join **criteria** tables

Original Titles:
Method and apparatus for logical data access to a physical relational **database** .

Alerting Abstract ...The **database** access system includes one or more applications having a logical data access interface for requesting...

...The data model has numerous interrelated logical entity types each with numerous logical attributes. A **RDBMS** contains numerous physical tables derived from the logical data model, each having numerous columns. A...

...pair to a physical table name and a physical column name as stored in the **RDBMS** .
...

...A **join table** has a **join** entry for each logical entity type represented by more than **one** physical **table** in the **RDBMS** . Each **join** entry identifies the physical **tables** and columns to **join** , and the join criteria necessary to form the logical entity type represented by the join entry. A logical data access module receives a logical **database** request from a requesting application via it's logical data interface. One or more **database** queries having physical table and physical column names are formed using the logical to physical data mapping and **join** criteria **tables** .
...

...ADVANTAGE - Allows change in physical structure of **database** tables without changing client applications. Allows DBA to tune **database** without changing client applications. Application can update views without knowing physical table names used in constructing view. Permits re-engineering **database** for maximum performance without modifying applications. Provides logical views without knowing join criteria.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
Logical Data Access to the physical structure of a relational **database** is provided for one or more Applications. Applications are developed using the logical entity types...

...then use a Logical Data Access Interface to access each of the required physical relational **database** tables via the Logical Data Access Layer. Applications then use logical entity type and logical...

...provides a rich set of functions for allowing an Application to control and manage a **database** , build and execute **database** queries and interface with physical **database** . The Logical Data Access Layer **determines** which of the physical tables and associated columns are required to satisfy the Application request and then builds one or more **database** query statements containing the appropriate physical table and column names.
Claims:
...entity types with each logical entity type having a plurality of logical attributes;a relational **database** management system containing a plurality

of physical tables, said physical tables derived from said logical...

...to a physical table name and a physical column name as stored in the relational **database** management system;a **join** **table** having a **join** entry for each logical entity type represented by more than **one** physical **table** in the relational **database** management system, each **join** entry identifying the physical **tables** to **join** , the physical columns to join, and the join criteria necessary to form the logical entity type represented by the join entry;a logical data access module for receiving a logical **database** request from a requesting application via the requesting applications's logical data interface, forming one or more **database** queries having physical table and physical column names using said logical to physical data mapping **table** and said **join** criteria **table.**

23/69,K/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0005871080 - Drawing available
WPI ACC NO: 1992-098495/
XRPX Acc No: N1992-073735
Computer data base **and retrieval method - analysing join statements using graphical technique to** determine **groups of tables represented as nodes**
Patent Assignee: IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC)
Inventor: JACOPI T W
Patent Family (5 patents, 4 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 476810	A	19920325	EP 1991306546	A	19910718	199213	B
US 5287493	A	19940215	US 1990576022	A	19900831	199407	E
EP 476810	A3	19931020	EP 1991306546	A	19910718	199510	E
EP 476810	B1	19981014	EP 1991306546	A	19910718	199845	E
DE 69130350	E	19981119	DE 69130350	A	19910718	199901	E
			EP 1991306546	A	19910718		

Priority Applications (no., kind, date): US 1990576022 A 19900831

Patent Details0

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 476810	A	EN	11	7	
Regional Designated States,Original: DE FR GB					
US 5287493	A	EN	10	7	
EP 476810	A3	EN			
EP 476810	B1	EN			
Regional Designated States,Original: DE FR GB					
DE 69130350	E	DE			Application EP 1991306546
					Based on OPI patent EP 476810

Alerting Abstract EP A
Data is retrieved using a request including a set of joint statements, each linking the name of two tables. The data processor includes an element to assign priority to one table name in ech joint statement. An array of graph identifiers corresponding to the table names is formed. Each group identifier is initialised to have a value representing the coressponding table name. Each joint statement is processed in succsssion.
The value of the priority name is substituted in the array of graph identifier values in place of each value representing the other name to derive an indication of the number of groups of linked names in the set of entered join statements.
USE/ADVANTAGE - Assures coherency of join list without need for re-entering all of elements of join list.

Equivalent Alerting Abstract US A
An interactive prompted query system is implemented in a **database** system having a number of named **database** tables which a user can link together for query purposes by entering join statements. The join statements are analyzed by **determining** that one or more groups of separately linked **database table** names are referenced in the **join** statements. If more than **one** group exists, then the join statements are adjusted so that only a single group of separately linked **database** table names is referenced by the join statements.
The single group of names may be **determined** by selecting the group which contains the name first entered by the user, by selecting the group

which contains the highest number of names, by prompting the user to select the group or by any other logical means. More particularly, the join statements are analyzed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables.

ADVANTAGE - Assures list coherency, without re-entering all join list elements.

Title Terms/Index Terms/Additional Words: COMPUTER; DATA; BASE; RETRIEVAL; METHOD; ANALYSE; JOIN; STATEMENT; GRAPHICAL; TECHNIQUE; **DETERMINE** ; GROUP; TABLE; REPRESENT; NODE

Class Codes
International Classification (Main): G06F-015/40, G06F-017/30
(Additional/Secondary): G06F-015/419

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3

Computer data base **and retrieval method...**

...analysing join statements using graphical technique to determine **groups of tables represented as nodes**

Original Titles:
...Method and system for retrieving data from joined tables in a computer **database**
...
...Method and system for retrieving data from joined tables in a computer **database**
...

... **Database** interactive prompted query system having named **database** tables linked together by a user through join statements

Equivalent Alerting Abstract ...An interactive prompted query system is implemented in a **database** system having a number of named **database** tables which a user can link together for query purposes by entering join statements. The join statements are analyzed by **determining** that one or more groups of separately linked **database table** names are referenced in the **join** statements. If more than **one** group exists, then the join statements are adjusted so that only a single group of separately linked **database** table names is referenced by the join statements...

...The single group of names may be **determined** by selecting the group which contains the name first entered by the user, by selecting...

...other logical means. More particularly, the join statements are analyzed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables...

Title Terms.../Index Terms/Additional Words: **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:

Method and computer **database** system for implementing an interactive prompted query system in a **database** system having a plurality of named **database** tables which a user can link together for query purposes by entering join statements. The join statements are analysed by **determining** that one or more groups of separately linked **database table** names are referenced in the **join** statements. If more than **one** group exists, then the join statements are adjusted so that only a single group of separately linked **database** table names is referenced by the join statements. The single group of names may be **determined** by selecting the group which contains the name first entered by the user, by selecting...

...other logical means. More particularly, the join statements are analysed using a graphical technique to **determine** the groups of tables.The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables...

...Method and computer **database** system for implementing an interactive prompted query system in a **database** system having a plurality of named **database** tables which a user can link together for query purposes by entering join statements. The join statements are analyzed by **determining** that one or more groups of separately linked **database table** names are referenced in the **join** statements. If more than **one** group exists, then the join statements are adjusted so that only a single group of separately linked **database** table names is referenced by the join statements. The single group of names may be **determined** by selecting the group which contains the name first entered by the user, by selecting...

...other logical means. More particularly, the join statements are analyzed using a graphical technique to **determine** the groups of tables. The tables are represented as nodes and the join relationships are represented as lines. The lines are traced to **determine** all of the nodes connected to form a single graph. Each graph represents a separately linked group of **database** tables.

Claims:

1. Data processing apparatus having data storage means to store a plurality of **data base** tables, and a user terminal for retrieving data by entering a data retrieval request including...

...the data storage means, characterised in that means are provided to assign priority to one **table** name in each **join** statement, means are provided to form an array of graph identifiers corresponding to the table ...

...1. Data processing apparatus having data storage means to store a plurality of **data base** tables, and a user terminal for retrieving data by entering a data retrieval request including...

...the data storage means, characterised in that means are provided to assign priority to one **table** name in each **join** statement, means are provided to form an array of graph identifiers corresponding to the table ...

...A computer-implemented method for analyzing a set of join statements logically joining **database** table names in a **database** having a plurality of named **database** tables, the method comprising the steps of: (a)

creating a join list of joined pairs of the **database** table names, the joined pairs having been entered by a user and one or more...
...been deleted by the user after having been entered; (b) analyzing the join list to **determine** groups of separately linked **database** table names by creating a graph array, elements of the graph array being associated on a one to one basis with the **database** table names referenced in the set of join statements and each said element in the graph array being initialized with a unique associated graph symbol, the join statements referencing **one** of the **joined** pairs of the **database** **table** names, the **joined** pair having a left entry and a right entry, then repeatedly adjusting the graph array so that the right entry of the joined pair of the **database** table names is associated with the graph symbol associated with the left entry of the...

...and (c) adjusting the join list to contain only a selected group of the linked **database** table names by deleting all the **database** table names not in the selected group.

31/69,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014154491 - Drawing available
WPI ACC NO: 2004-339406/
XRPX Acc No: N2004-271330
Structured query language optimization method in personal computer, involves merging leaf nodes of join tree, having merging opportunities, and calculating combined factors of merged nodes to determine **execution order of nodes**
Patent Assignee: TOW D S (TOWD-I)
Inventor: TOW D S
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040064441	A1	20040401	US 2002256936	A	20020927	200431 B

Priority Applications (no., kind, date): US 2002256936 A 20020927

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040064441	A1	EN	17	4	

Alerting Abstract US A1
NOVELTY - A specific query comprising identified leaf nodes of a join tree is optimized, and the exclusive parents of the leaf nodes are examined. The nodes in which merging opportunities exist, are selectively merged. The combined factors for the merged nodes are calculated, to **determine** the order of execution of the nodes.
DESCRIPTION - An INDEPENDENT CLAIM is also included for computer program product for performing structured query language optimization method.
USE - For performing optimization of structured query language (SQL) in computer system.
ADVANTAGE - Enables improving the efficiency of the computer system, by optimizing the structured query language using simple process.
DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the structured **query** language optimization **process** .

Title Terms/Index Terms/Additional Words: STRUCTURE; QUERY; LANGUAGE; OPTIMUM; METHOD; PERSON; COMPUTER; MERGE; LEAF; NODE; JOIN; TREE; CALCULATE; COMBINATION; FACTOR; **DETERMINE** ; EXECUTE; ORDER

Class Codes
International Classification (Main): G06F-017/30
(Additional/Secondary): G06F-007/00
File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-E01C; T01-J05B3; T01-S03

...nodes of join tree, having merging opportunities, and calculating combined factors of merged nodes to determine **execution order of nodes**

Alerting Abstract ...opportunities exist, are selectively merged. The combined factors for the merged nodes are calculated, to **determine** the
order of execution of the nodes....DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining the structured **query** language optimization
process .

Title Terms.../Index Terms/Additional Words: **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
...the statement. A data structure is created in computer memory that encodes information about a **database** statement execution plan (e.g., an
SQL statement). The information is arranged in a specific...
...data structure is used in optimizing the SQL statement execution plan so
as to merge **joined** **tables** to enable efficient optimization. Furthermore
optimized SQL execution plans in accordance with the present invention...
Claims:
...claimed is: b 1 /b . A method for selectively optimizing a path to access information from a **database** system, the method comprising the steps for:examining nodes for merge opportunities;selectively merging nodes
...

31/69,K/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0013917907 - Drawing available
WPI ACC NO: 2004-097663/
XRPX Acc No: N2004-077780
Structured query language database **management system for Internet business, has integrated circuit that processes industry standard structured query language commands received through open** data base **connectivity interface**
Patent Assignee: MELCHIOR T A (MELC-I); MOHAMMADI-ZAND D L (MOHA-I)
Inventor: MELCHIOR T A; MOHAMMADI-ZAND D L
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20030229625	A1	20031211	US 2002163652	A	20020606	200410 B

Priority Applications (no., kind, date): US 2002163652 A 20020606

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030229625	A1	EN	17	9	

Alerting Abstract US A1
NOVELTY - The system has a **database** administrator (14) that receives application programs through an open **data base** connectivity interface.
The administrator maintains a checkpoint file (22) and a journal file (24).
A structured **query** language (SQL) **processing** integrated circuit (IC) (44A, 44B) processes industry standard SQL commands. A content addressable memory (46A, 46B) stores the processed commands.
USE - Used for managing structured query language **database** for Internet business.
ADVANTAGE - The integrated circuit processes the industry standard structured query language commands, thereby increasing the memory bandwidth. The integrated circuit distributes the data load across the buses, thereby increasing the memory densities while decreasing the cost.
DESCRIPTION OF DRAWINGS - The drawing shows a data flow diagram of an integrated circuit based structured query language **database** management system.
14 **Database** administrator
22 **Check** point file
24 Journal file
44A, 44B Integrated circuit
46A, 46B Memory

Title Terms/Index Terms/Additional Words: STRUCTURE; QUERY; LANGUAGE; **DATABASE** ; MANAGEMENT; SYSTEM; BUSINESS; INTEGRATE; CIRCUIT; PROCESS;

INDUSTRIAL; STANDARD; COMMAND; RECEIVE; THROUGH; OPEN; DATA; BASE; CONNECT; INTERFACE

Class Codes
International Classification (Main): G06F-007/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4; T01-N01A2

Structured query language database **management system for Internet business, has integrated circuit that processes industry standard structured query language commands received through open** data base **connectivity interface**

Original Titles:
Structured **query** language **processing** integrated circuit and distributed
database processor

Alerting Abstract ...NOVELTY - The system has a **database** administrator
(14) that receives application programs through an open **data base** connectivity interface. The administrator maintains a checkpoint file (22)
and a journal file (24). A structured **query** language (SQL) **processing**
integrated circuit (IC) (44A, 44B) processes industry standard SQL commands. A content addressable memory (46A...
USE - Used for managing structured query language **database** for Internet
business...

...The drawing shows a data flow diagram of an integrated circuit based structured query language **database** management system...

...14 **Database** administrator...

...22 **Check** point file...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A distributed SQL **database** management system includes an SQL-processing
integrated circuit capable of processing industry standard SQL commands...

...at a high abstraction level. The use of the SQL integrated circuit and
distributed SQL **database** management system significantly increases memory
bandwidth. The SQL integrated circuit performs the following SQL functions:

table joins , view support, learning mode extension, proximity match extension, longest prefix match extension, SQL DML support...

Claims:

Having thus described the invention, what is claimed is: b 1 /b . A distributed SQL **database** management system comprising at least one dedicated SQL-processing integrated circuit.

31/69,K/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2006 The Thomson Corporation. All rts. reserv.

0013730966 - Drawing available
WPI ACC NO: 2003-828994/
XRPX Acc No: N2003-662293
Structured query language query optimization method for database **management system, involves changing WHERE clause of query by mapping query condition to join index and adding join back condition to base table**
Patent Assignee: NCR CORP (NATC)
Inventor: AU G K; GHAZAL A S; SINCLAIR P L
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6643636	B1	20031104	US 2001874804	A	20010605	200377 B

Priority Applications (no., kind, date): US 2001874804 A 20010605

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6643636	B1	EN	9	4	

Alerting Abstract US B1
NOVELTY - A join index is added to the FROM clause of the query, if a non-covering join index is not covering the query. The WHERE clause of the query is changed by mapping query condition to join index for its partially covered base **tables** and adding a **join** back condition of the join index to the base **table** from which the **join** index is formed.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. database system; and

2.structured query language query optimizing program.

USE - For optimizing structured query language (SQL) query in **database** management system (**DBMS**).
ADVANTAGE - The SQL query is optimized effectively by changing the WHERE clause of the query.
DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the **database** system and the flowchart explaining **query** optimizing **process** .

Title Terms/Index Terms/Additional Words: STRUCTURE; QUERY; LANGUAGE; OPTIMUM; METHOD; **DATABASE** ; MANAGEMENT; SYSTEM; CHANGE; MAP; CONDITION; JOIN; INDEX; ADD; BACK; BASE; TABLE

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

Structured query language query optimization method for database **management system, involves changing WHERE clause of query by mapping query condition to join index...**

Alerting Abstract ...query is changed by mapping query condition to join index for its partially covered base **tables** and adding a **join** back condition of the join index to the base **table** from which the **join** index is formed.... **database** system; and structured query language query optimizing program...

...USE - For optimizing structured query language (SQL) query in **database** management system (**DBMS**).

...

...DESCRIPTION OF DRAWINGS - The figure shows the block diagram of the **database** system and the flowchart explaining **query** optimizing **process** .

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method, **database** system and computer program are disclosed for optimizing a SQL query, in which the SQL query includes a WHERE clause and a FROM clause. An evaluation is done to **determine** whether a non-covering join index partially but not completely covers the query. If it...

...tables; and (2) adding a join back condition from the join index to a base **table** from which the **join** index was formed.
Claims:
...tables; and (2) adding a join back condition from the join index to a base **table** from which the **join** index was formed.

31/69,K/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013650248 - Drawing available
WPI ACC NO: 2003-746273/200370
XRPX Acc No: N2003-597955
Join sequence determining **method for relational** databases , **involves** determining join **sequence to** join tables **from query using generated**
sequence to create access path in processing query
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: SINNOTT J F
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20030167272	A1	20030904	US 200290275	A	20020304	200370 B
US 7085754	B2	20060801				200650 E

Priority Applications (no., kind, date): US 200290275 A 20020304

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030167272	A1	EN	8	3	

Alerting Abstract US A1
NOVELTY - The method involves **determining** a **join** sequence to **join**
tables from a query in a primary pass by creating a set of mini-plans simulating all possible joins of a predetermined subset of the query tables
and using cost model calculations. The **determined** join sequence is then
used in a secondary pass to create an access path for **processing** the **query** .
DESCRIPTION - An INDEPENDENT CLAIM is also included for a computer based
processor system for **determining** optimum join sequence for **processing** a
query .
USE - Used for processing a multi-table structured query language (SQL)
query in a relational **database** stored in electronic devices.
ADVANTAGE - The **determination** of the detailed access path in secondary
pass by using the optimum join sequence **determined** in the primary pass
eliminates the expensive EXPLAIN tables and avoids storage usage expense
problem.
DESCRIPTION OF DRAWINGS - The drawing shows a computer hardware and software environment that enables a two-pass dynamic programming algorithm
in join sequence **determining** method.
104 Processor
105 Operating memory

106 Electronic storage devices
108 Computer system terminal
112 Relation **database**

Title Terms/Index Terms/Additional Words: JOIN; SEQUENCE; **DETERMINE** ; METHOD; RELATED; TABLE; QUERY; GENERATE; ACCESS; PATH; PROCESS

Class Codes
International Classification (+ Attributes)
IPC + Level Value Position Status Version
G06F-0017/30 A I F B 20060101
G06F-0007/00 A I R 20060101
G06F-0007/00 C I R 20060101

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4B

Join sequence determining **method for relational** databases , **involves** determining join **sequence to** join tables **from query using generated**
sequence to create access path in processing query

Original Titles:
System and a two-pass algorithm for **determining** the optimum access path
for multi-table SQL queries

Alerting Abstract ...NOVELTY - The method involves **determining** a **join**
sequence to **join tables** from a query in a primary pass by creating a
set of mini-plans simulating...

...joins of a predetermined subset of the query tables and using cost model
calculations. The **determined** join sequence is then used in a secondary
pass to create an access path for **processing** the **query** . DESCRIPTION -
An INDEPENDENT CLAIM is also included for a computer based processor system
for **determining** optimum join sequence for **processing** a **query** .
...

...USE - Used for processing a multi-table structured query language (SQL)
query in a relational **database** stored in electronic devices...

...ADVANTAGE - The **determination** of the detailed access path in secondary
pass by using the optimum join sequence **determined** in the primary pass
eliminates the expensive EXPLAIN tables and avoids storage usage expense
problem...

...hardware and software environment that enables a two-pass dynamic programming algorithm in join sequence **determining** method...

...112 Relation **database**

Title Terms.../Index Terms/Additional Words: **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
An apparatus, article of manufacture and computer-based method is provided
for **determining** the optimum join sequence for **processing** a **query** having a plurality of tables from a relational **database** stored in an electronic storage device having a **database** management system. The method
is performed in two passes. The first pass is used for **determining** an optimum join sequence for joining the plurality of tables from the query.
The second pass uses the optimum join sequence for creating a lowest cost
access path plan for **processing** the **query** . The first pass performs successive steps until creation of a simulated composite table having all
...
Claims:
What is claimed is: b 1 /b . A computer-based method for **determining**
the optimum join sequence for **processing** a **query** having a plurality of
tables from a relational **database** stored in an electronic storage device
having a **database** management system, the method comprising the steps of:
(a) a first pass for **determining** an optimum join sequence for joining the
plurality of tables from the query; and (b...

...for using the optimum join sequence for creating a lowest cost access
path plan for **processing** the **query**.

31/69,K/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013431814 - Drawing available
WPI ACC NO: 2003-522669/
XRPX Acc No: N2003-414759
Internet based data record search method in database **, involves constructing query corresponding to given search criteria and executing it on identified regions of** database
Patent Assignee: MICROSOFT CORP (MICT)
Inventor: AGRAWAL S; CHAUDHURI S
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030078915	A1	20030424	US 200136348	A	20011019	200349	B
US 6792414	B2	20040914	US 200136348	A	20011019	200460	E

Priority Applications (no., kind, date): US 200136348 A 20011019

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030078915	A1	EN	26	24	

Alerting Abstract US A1

NOVELTY - An inverter list of keywords that maps the data record components to a region of **database** containing corresponding data record, is created. The regions of **database** containing data records relating to the given search keyword, are identified by accessing the inverted list. A query is constructed corresponding to the given search criteria and is executed on the identified regions of **database** .

DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.computer readable medium storing instructions to perform data record search process ; and

2. data records search apparatus.

USE - For searching data records in **database** comprising address information of employee, mailing list information, product and sales details.

ADVANTAGE - The records matching the search criteria are efficiently retrieved by executing the query on the identified regions. The keyword searching on relational **database** is made efficient.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart of **data** record search **process** .

Title Terms/Index Terms/Additional Words: BASED; DATA; RECORD; SEARCH; METHOD; **DATABASE** ; CONSTRUCTION; QUERY; CORRESPOND; CRITERIA; EXECUTE;

IDENTIFY; REGION

Class Codes
International Classification (Main): G06F-017/30, G06F-007/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4P; T01-N03A2; T01-S03

Internet based data record search method in database **, involves constructing query corresponding to given search criteria and executing it**
on identified regions of database

Original Titles:
Generalized keyword matching for keyword based searching over relational
databases
...

...Generalized keyword matching for keyword based searching over relational
databases

Alerting Abstract ...An inverter list of keywords that maps the data record components to a region of **database** containing corresponding data
record, is created. The regions of **database** containing data records relating to the given search keyword, are identified by accessing the inverted...

...constructed corresponding to the given search criteria and is executed
on the identified regions of **database** . ...computer readable medium storing instructions to perform **data** record search **process** ; and **data**
records search apparatus...

...USE - For searching data records in **database** comprising address information of employee, mailing list information, product and sales details...

...efficiently retrieved by executing the query on the identified regions.
The keyword searching on relational **database** is made efficient...

...DESCRIPTION OF DRAWINGS - The figure shows the flowchart of **data** record search **process** .

Title Terms.../Index Terms/Additional Words: **DATABASE** ;
Original Publication Data by Authority

Original Abstracts:
Searching by keywords and providing generalized matching capabilities on a
relational **database** is enabled by performing preprocessing operations

to
construct inverted list lookup tables based on data...

...of the keyword. A keyword search is performed on the lookup tables rather than the **database** tables to **determine** **database** column locations of the keyword. The lookup tables is scanned to identify each prefix associated with the search term. Schema information about the **database** is used to link the column locations to form **database** subgraphs
that span the keywords. **Join** **tables** are to generated based on the subgraphs consisting of columns containing the keywords. A query on the **database** is generated to **join** the **tables** and retrieve **database** rows
that contain the keyword and the prefixes associated with the keyword. The
retrieved rows are ranked in order of relevance before being output. By preprocessing a relational **database** to form lookup tables, and initially
searching the lookup tables to obtain a targeted subset of the **database**
upon which SQL queries can be performed to collect data records, keyword
searching on relational **database** is made efficient...
...Searching by keywords and providing generalized matching capabilities on
a relational **database** is enabled by performing preprocessing operations
to construct inverted list lookup tables based on data...

...of the keyword. A keyword search is performed on the lookup tables rather than the **database** tables to **determine** **database** column locations of the keyword. The lookup tables is scanned to identify each prefix associated with the search term. Schema information about the **database** is used to link the column locations to form **database** subgraphs
that span the keywords. **Join** **tables** are to generated based on the subgraphs consisting of columns containing the keywords. A query on the **database** is generated to **join** the **tables** and retrieve **database** rows
that contain the keyword and the prefixes associated with the keyword. The
retrieved rows are ranked in order of relevance before being output. By preprocessing a relational **database** to form lookup tables, and initially
searching the lookup tables to obtain a targeted subset of the **database**
upon which SQL queries can be performed to collect data records, keyword
searching on relational **database** is made efficient.
Claims:
We claim: b 1 /b . A method for searching a **database** for data records
relating to given search keywords in a search criteria comprising the steps
...
...inverted list of keywords that maps each data record component to a region of the **database** in which the data record corresponding to the

component is found; identifying regions of the **database** that contain data
records relating to the given search keyword by accessing the inverted list
...

...to the given search criteria; and executing the query on the identified
regions of the **database** to retrieve records matching the search criteria
...

...We claim: 1. A method for searching a **database** for data records relating to given search keywords in a search criteria comprising: generating a...

...inverted list of keywords that maps each data record component to a region of the **database** in which the data record corresponding to the component is found; identifying regions of the **database** that contain data
records relating to the given search keyword by accessing the inverted list
...

...to the given search criteria; and executing the query on the identified
regions of the **database** to retrieve records matching the search criteria.

31/69,K/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013295425 - Drawing available
WPI ACC NO: 2003-382211/200336
XRPX Acc No: N2003-305334
Apparatus for relational database **processing** determines **multi-part concatenated table look-up fields**
Patent Assignee: BEA SYSTEMS INC (BEAS-N); BELLEW M A (BELL-I)
Inventor: BELLEW M A
Patent Family (8 patents, 98 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
WO 2003036519	A1	20030501	WO 2002US33859	A	20021022	200336 B
US 20030131215	A1	20030710	US 200243949	A	20020110	200347 E
US 20040010507	A1	20040115	US 200138412	A	20011025	200406 E
AU 2002337948	A1	20030506	AU 2002337948	A	20021022	200460 E
JP 2005507121	W	20050310	WO 2002US33859	A	20021022	200518 E
			JP 2003538938	A	20021022	
US 6988094	B2	20060117	US 200138412	A	20011025	200606 E
US 20060053089	A1	20060309	US 200138412	A	20011025	200618 E
			US 2005252939	A	20051018	
US 7076482	B2	20060711	US 200138412	A	20011025	200646 E
			US 200243949	A	20020110	

Priority Applications (no., kind, date): US 2005252939 A 20051018; US 200138412 A 20011025; US 200243949 A 20020110

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
WO 2003036519	A1	EN	29	6	

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY
BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ
NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN
YU ZA ZM ZW
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EA EE ES FI
FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG
ZM ZW

AU 2002337948	A1	EN		Based on OPI patent WO 2003036519
JP 2005507121	W	JA	52	PCT Application WO 2002US33859 Based on OPI patent WO 2003036519
US 20060053089	A1	EN		Continuation of application US 200138412
US 7076482	B2	EN		Continuation of patent US 6988094 C-I-P of application US 200138412 C-I-P of patent US 6988094

Alerting Abstract WO A1

NOVELTY - Apparatus has a program store for parsing the **data processing** statement, identifying the referenced table field or fields, **determining** whether the field is a looked-up field, identifying the basis table, identifying target tables and generating an SQL statement (Select, Insert, Update, Delete) plus fields selected from a basis table and From clause. If the statement contains fields to be looked up, Outer or Inner Join and On clauses are included for the target table rows, the conditions being look-up fields.

USE - Apparatus is for relational **database** tables.

ADVANTAGE - Apparatus requires less processing skill.

DESCRIPTION OF DRAWINGS - The figure shows operation of an SQL generator.

Title Terms/Index Terms/Additional Words: APPARATUS; RELATED; **DATABASE**; PROCESS; **DETERMINE** ; MULTI; PART; CONCATENATED; TABLE; UP; FIELD

Class Codes

International Classification (Main): G06F-012/00
(Additional/Secondary): G06F-017/30
International Classification (+ Attributes)

IPC + Level Value	Position	Status	Version
G06F-0017/00 A	I L	B	20060101
G06F-0017/30 A	I F	B	20060101
G06F-0007/00 A	I L	B	20060101
G06F-0017/00 A	I F	B	20060101
G06F-0017/30 A	I	R	20060101
G06F-0017/30 C	I	R	20060101

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4B

Apparatus for relational database **processing** determines **multi-part concatenated table look-up fields**

Original Titles:

MULTI-PART LOOKED-UP TABLE FIELDS AND ITS USE IN **DATA PROCESSING** OPERATIONS INVOLVING MULTIPLE TABLES OF A RELATIONAL **DATABASE**
...

...Multi-part looked-up table fields and its use in **data processing** operations involving multiple tables of a relational **database**
...

...Multi-part looked-up table fields and its use to in **data processing** operations involving multiple tables of a relational **database**
...

...Multi-part looked-up table fields and its use in **data processing**

operations involving multiple tables of a relational **database**
...

...Multi-part looked-up table field and its use to in **data processing**
operations involving multiple tables of a relational **database**
...

...Multi-part looked-up table fields and its use in **data processing**
operations involving multiple tables of a relational **database**
...

...MULTI-PART LOOKED-UP TABLE FIELDS AND ITS USE IN **DATA PROCESSING**
OPERATIONS INVOLVING MULTIPLE TABLES OF A RELATIONAL **DATABASE**

Alerting Abstract ...NOVELTY - Apparatus has a program store for parsing
the **data processing** statement, identifying the referenced table field
or fields,. **determining** whether the field is a looked-up field,
identifying the basis table, identifying target tables...
USE - Apparatus is for relational **database** tables...

Title Terms.../Index Terms/Additional Words: **DATABASE** ; ...

... **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
...and table fields having aggregate functions to be performed in their row
values in a **data processing** statement, and automatic inclusion with a
SQL statement a subquery to generate a grouped derivative...

...a software component is equipped to automatically expand table fields
available for inclusion in a **data processing** operation to include table
fields of a target table of a look-up table field...

...first aspect, a software component is equipped to identify looked-up
table fields in a **data processing** statement, and automatically includes
with a SQL statement one or more appropriate JOIN clauses joining...

...a software component is equipped to automatically expand table fields
available for inclusion in a **data processing** operation to include table
fields of a target table of a look-up table field...

...first aspect, a software component is equipped to identify looked-up
table fields in a **data processing** statement, and automatically includes

with a SQL statement one or more appropriate JOIN clauses joining...

...a software component is equipped to automatically expand table fields
available for inclusion in a **data processing** operation to include table
fields of a target table of a look-up table field...

...first aspect, a software component is equipped to identify looked-up table fields in a **data processing** statement, and automatically includes
with a SQL statement one or more appropriate JOIN clauses joining...

...a software component is equipped to automatically expand table fields
available for inclusion in a **data processing** operation to include table
fields of a target table of a look-up table field...

...and table fields having aggregate functions to be performed in their row
values in a **data processing** statement, and automatic inclusion with a
SQL statement a subquery to generate a grouped derivative...
...a software component is equipped to automatically expand table fields
available for inclusion in a **data processing** operation to include table
fields of a target table of a look-up table field...
Claims:
What is claimed is: b 1 /b . A method comprising:parsing a **data processing** statement;identifying table field or fields referenced in said
data processing statement, including whether an aggregation operation is
to be performed on row values of each of the identified table fields;for
each identified table field, **determining** whether the table field is a looked-up field;identifying a basis table of which...

...clauses joining the corresponding one or more target tables to the grouped derivative table, if **the data** processing statement **is** determined to contain first one or more table fields to have aggregation
operations performed on...

...What is claimed is: b 1 /b . A method comprising:parsing **a data** processing statement;identifying table field or fields referenced in **said**
data processing statement;for each identified table **field** , determining
whether the table field is a looked-up field;identifying a basis table of
...

...selected from said basis table and a FROM clause enumerating said basis

table, and if **the** **data** processing statement **was** determined to contain
one or more fields to be looked up from one or more...
...looked up from said one or more target tables, and one or more JOIN clauses **respectively** joining said **basis** table and said one or more target tables, and one or more corresponding ON clauses...

...or more corresponding conditions on which rows of said basis and said
one or more **target** tables are to **be** joined, each of said one or more
conditions comprising a corresponding look-up field...

...What is claimed is:1. A method comprising:parsing **a** **data** processing
statement;identifying table field or fields referenced in **said** **data** processing statement;for each identified table **field** , determining whether
the table field is a looked-up field;identifying a basis table of...

...selected from said basis table and a FROM clause enumerating said basis
table, and if **the** **data** processing statement **was** determined to contain
one or more fields to be looked up from one or more...

...looked up from said one or more target tables, and one or more JOIN clauses **respectively** joining said **basis** table and said one or more target tables, and one or more corresponding ON clauses...

...or more corresponding conditions on which rows of said basis and said
one or more **target** tables are to **be** joined, each of said one or more
conditions comprising a corresponding look-up field...

...What is claimed is:1. A method comprising: parsing on a computing system
a **data** processing statement;identifying table field or fields referenced in **said** **data** processing statement, including whether an aggregation operation is to be performed on row values of each of the identified table fields;for each identified table **field** , determining whether the table field is a looked-up field;identifying a basis table of
...

...JOIN clauses joining the corresponding one or more target tables to the
grouped derivative table, **if** **the** data processing **statement** is determined to contain first one or more table fields to have aggregation
operations performed...

31/69,K/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013242378 - Drawing available
WPI ACC NO: 2003-327525/200331
XRPX Acc No: N2003-261812
Query processing **method for** database **management system, involves rewriting query that does not reference particular materialized view, only when particular materialized view satisfies predetermined conditions**
Patent Assignee: ORACLE CORP (ORAC-N)
Inventor: BELLO R; FINNERTY J; WITKOWSKI A; ZIAUDDIN M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6496819	B1	20021217	US 1998221641	A	19981228	200331 B

Priority Applications (no., kind, date): US 1998221641 A 19981228

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6496819	B1	EN	35	9	

Alerting Abstract US B1
NOVELTY - A query that does not reference a particular materialized view and requires access to values from a particular column not contained in the materialized view, is received. The query is rewritten only when the particular materialized view satisfies predetermined conditions, to produce a rewritten query that references the materialized view, and joins the view back to a **join** -back **table** that contains the particular column.
DESCRIPTION - An INDEPENDENT CLAIM is included for computer readable medium storing **query processing** program.
USE - For **processing queries** in **database** management system (**DBMS**).
ADVANTAGE - Since only the materialized views satisfying predetermined conditions are used for **processing** the **queries** , **query** execution speed is improved and size of the **database** containing the materialized views is reduced. Hence, overhead associated with maintaining the materialized views that are not necessary is eliminated.
DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating the **query** execution **process** .

Title Terms/Index Terms/Additional Words: QUERY; PROCESS; METHOD; **DATABASE** ; MANAGEMENT; SYSTEM; REWRITING; REFERENCE; VIEW; SATISFY;

PREDETERMINED;
CONDITION

Class Codes
International Classification (Main): G06F-017/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

Query processing **method for** database **management system, involves rewriting query that does not reference particular materialized view, only when particular...**

Alerting Abstract ...a rewritten query that references the materialized view, and joins the view back to a **join** -back **table** that contains the particular column.DESCRIPTION - An INDEPENDENT CLAIM is included for computer readable medium storing **query processing** program...

...USE - For **processing queries** in **database** management system (**DBMS**).
...

...ADVANTAGE - Since only the materialized views satisfying predetermined conditions are used for **processing** the **queries** , **query** execution speed is improved and size of the **database** containing the materialized views is reduced. Hence, overhead associated with maintaining the materialized views that...

...DESCRIPTION OF DRAWINGS - The figure shows a flowchart illustrating the **query** execution **process** .

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method and system is provided for **processing queries** . Specifically, techniques are provided for handling a query that does not reference a particular materialized...

...a particular column not contained in the materialized view. A technique is also provided for **processing** a **query** that does not reference a particular materialized aggregate view, where the materialized aggregate

view specifies an outer **join** between a child **table** and a parent table
and the query specifies a particular type of **join** between the child **table** and the parent table, where the particular type of join is one of an
inner...

...aggregate view to produce data required by the query. A technique is also provided for **processing** a **query** that does not reference a particular materialized view and that specifies that results are to...
Claims:
What is claimed is:1. A method for **processing** **queries** , the method comprising the steps of:receiving a query that does not reference a particular...

...query requiring access to values from a particular column not contained
in said materialized view; **determining** whether the particular materialized
view satisfies each condition in a set of conditions, the set...

...a rewritten query that references said materialized view and joins said
materialized view back to **a** join- **back** table that contains said particular column.

31/69,K/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013173032 - Drawing available
WPI ACC NO: 2003-256161/200325
XRPX Acc No: N2003-203306
Query **optimizing and** processing **method in** database **management system,**
involves selecting query execution plan based on plan execution cost vector
quantity
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: BESTGEN R J; BOGER C N; DIETEL J D; EGAN R L
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030018618	A1	20030123	US 2001810973	A	20010315	200325	B
US 7007009	B2	20060228	US 2001810973	A	20010315	200616	E

Priority Applications (no., kind, date): US 2001810973 A 20010315

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030018618	A1	EN	15	3	

Alerting Abstract US A1
NOVELTY - The cost for an execution plan for a query is calculated as a vector quantity and **determined** whether the plan should be selected for execution based on the cost vector quantity.
DESCRIPTION - An INDEPENDENT CLAIM is included for recorded medium storing **query** optimizing and **processing** program.
USE - In computer **database** management system.
ADVANTAGE - Improves the effectiveness and efficiency of selecting an execution plan.
DESCRIPTION OF DRAWINGS - The figure shows a flowchart explaining the query execution plan generation and execution method.

Title Terms/Index Terms/Additional Words: QUERY; OPTIMUM; PROCESS; METHOD;
DATABASE ; MANAGEMENT; SYSTEM; SELECT; EXECUTE; PLAN; BASED; COST; VECTOR
; QUANTITY

Class Codes
International Classification (Main): G06F-017/30
International Classification (+ Attributes)
IPC + Level Value Position Status Version
G06F-0017/30 A I F B 20060101

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M

Query **optimizing and** processing **method in** database **management system,**
involves selecting query execution plan based on plan execution cost vector
quantity

Alerting Abstract ...cost for an execution plan for a query is calculated
as a vector quantity and **determined** whether the plan should be selected
for execution based on the cost vector quantity.DESCRIPTION - An INDEPENDENT CLAIM is included for recorded medium storing **query** optimizing and **processing** program...

...USE - In computer **database** management system...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
...number of records returned from part or all of a query, estimated record
fanout when **joining** one **file** to another, etc...

...number of records returned from part or all of a query, estimated record
fanout when **joining** one **file** to another, etc.
Claims:
What is claimed is: b 1 /b . A method of optimizing and **processing** a **query** in a **database** management system in order to retrieve data from computer storage, the method comprising:receiving a...

...What is claimed is:1. A method of optimizing **and** processing **a** query
in **a** database management system in order to retrieve data from computer
storage, the method comprising:receiving...

31/69,K/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0012823205 - Drawing available
WPI ACC NO: 2002-680895/
XRPX Acc No: N2002-537386
Lowest cost permutation determining **method for** data processor , **involves** determining **whether the final composite is used for calculating**
cost of building based on which lowest value of building is saved
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: SINNOTT J
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6421657	B1	20020716	US 1999332586	A	19990614	200273 B

Priority Applications (no., kind, date): US 1999332586 A 19990614

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6421657	B1	EN	9	4	

Alerting Abstract US B1
NOVELTY - The cost of building using initial set of composites are **determined** . The cost of building for next successive larger set of composites whose value does not exceed the threshold value are calculated.
The **determination** unit **determines** whether the final composite is used
for calculating the cost of the building based on which the lowest value of
the building is saved.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1.Method for calculating threshold value of a composite;

2.Computer readable medium storing threshold value calculation program;

3.Lowest cost permutation determination system;

4.Computer readable medium storing lowest cost permutation determination
program; and

5.System for calculating threshold value.

USE - For **database** management system for use with **data processor** .

ADVANTAGE - The lowest cost permutation is **determined** efficiently minimizing the computation time. Also the CPU storage and elapse time are
significantly reduced.
DESCRIPTION OF DRAWINGS - The figure shows the flowchart explaining

the
method of calculating threshold value.

Title Terms/Index Terms/Additional Words: LOW; COST; PERMUTATION; **DETERMINE** ; METHOD; DATA; PROCESSOR; FINAL; COMPOSITE; CALCULATE; BUILD; BASED; VALUE; SAVE

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-S03

Lowest cost permutation determining **method for** data processor , **involves** determining **whether the final composite is used for calculating cost of building based on which lowest...**

Original Titles:
Method and system for **determining** the lowest cost permutation for **joining** relational **database tables** .

Alerting Abstract ...NOVELTY - The cost of building using initial set of composites are **determined** . The cost of building for next successive larger set of composites whose value does not exceed the threshold value are calculated. The **determination** unit **determines** whether the final composite is used for calculating the cost of the building based on... ...value of a composite; Computer readable medium storing threshold value calculation program; Lowest cost permutation **determination** system; Computer readable medium storing lowest cost permutation **determination** program; and System for calculating threshold value...

...USE - For **database** management system for use with **data processor** .
...

...ADVANTAGE - The lowest cost permutation is **determined** efficiently minimizing the computation time. Also the CPU storage and elapse time are significantly reduced

Title Terms.../Index Terms/Additional Words: **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
...method and system for calculating the lowest cost join permutation for queries which involve multiple **database** tables is disclosed. A method and system comprises building all initial table composites and **determining**

the cost of building each member of the set of composites one table at a
time. The method and system includes **comparing** the cost of building each
member of the composites to a threshold value and skipping...

...for building each member of the next successively larger composites. The
method and system includes **determining** if a final composite has been
built and stepping to the next composites if the...

...until the final composite has been built. The costs of building a given
composite are **compared** to a threshold. The threshold is **determined** by
choosing a minimum cost composite from all the composites which have N
tables in...

Claims:

A method for **determining** the lowest cost permutation for **joining** **database** **tables** comprising the steps of: (a) **determining** the cost of
building each member of an initial set of composites one table at...

...value; (c) saving the lowest cost for building each member of the next
composites; (d) **determining** if a final composite has been built; (e)
stepping to the next successively larger set...

31/69,K/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0012754332 - Drawing available
WPI ACC NO: 2002-607514/
XRPX Acc No: N2002-481095
Database query processing **method for client/server** database **system,**
involves selecting rows of successive database tables **retrieved in** determined join **order, which satisfy specific join condition for** database **query**
Patent Assignee: SYBASE INC (SYBA-N)
Inventor: PONNEKANTI N
Patent Family (2 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20020078015	A1	20020620	US 2000252758	P	20001122	200265	B
			US 2001900003	A	20010705		
US 6493701	B2	20021210	US 2001900003	A	20010705	200301	E

Priority Applications (no., kind, date): US 2000252758 P 20001122; US 2001900003 A 20010705

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20020078015	A1	EN	40	9	Related to Provisional US 2000252758

Alerting Abstract US A1
NOVELTY - A **database tables join** order is **determined** in response to a received **database** query which specifies a predetermined join condition that should exist between an inner table and an outer table. Rows of successive tables are retrieved in the join order to test whether the rows satisfy the join condition. The join condition satisfied rows are included in the query.
USE - **Database query processing** method for **database** management system for decision support and OLAP used for client/server applications.
ADVANTAGE - Enables optimizing nested loop joins more efficiently, by ordering **tables** according to prescribed **join** condition.
DESCRIPTION OF DRAWINGS - The figure shows the block diagram of a computer software system.

Title Terms/Index Terms/Additional Words: **DATABASE** ; QUERY; PROCESS; METHOD; CLIENT; SERVE; SYSTEM; SELECT; ROW; SUCCESSION; TABLE; RETRIEVAL;
DETERMINE ; JOIN; ORDER; SATISFY; SPECIFIC; CONDITION

Class Codes
International Classification (Main): G06F-017/30, G06F-007/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-N02A3C

Database query processing **method for client/server** database **system,**
involves selecting rows of successive database tables **retrieved in** determined join **order, which satisfy specific join condition for** database **query**

Original Titles:
Database system with methodogy providing faster n-ary nested loop joins
...

... **Database** system with methodogy providing faster N-ary nested loop joins

Alerting Abstract ...NOVELTY - A **database tables join** order is **determined** in response to a received **database** query which specifies a
predetermined join condition that should exist between an inner table and
...
USE - **Database query processing** method for **database** management system for decision support and OLAP used for client/server applications...

...ADVANTAGE - Enables optimizing nested loop joins more efficiently, by
ordering **tables** according to prescribed **join** condition...

Title Terms/Index Terms/Additional Words: **DATABASE** ; ...

... **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
A **database** system implementing a methodology or technique that can be
used to optimize processing of nested...

...In this manner, the methodology optimizes processing of n-ary nested loop joins by eliminating **comparisons** that will not hold true for the corresponding join condition (for which the **comparisons** were to be tested
...

...A **database** system implementing a methodology or technique that can be
used to optimize processing of nested...

...In this manner, the methodology optimizes processing of n-ary nested loop joins by eliminating **comparisons** that will not hold true for the corresponding join condition (for which the **comparisons** were to be

tested).
Claims:
What is claimed is: b 1 /b . In a **database** system for representing
information in **database** tables and for retrieving information from **database** tables in response to **database** queries, each **database** table
comprising data records storing information categorized into one or more
database columns, each **database** column storing information as an attribute having a particular data type, a method for **processing** a **database** **query** specifying a join of three or more tables, the method comprising: in response to receiving a particular **database** query specifying a join of three or more **tables** , **determining** a **join** order
for examining the tables during **query** **processing** , wherein said particular **database** query specifies selection criteria including at least
one join condition that must exist between an inner table and an outer table that is not a directly preceding **table** in the **join** order; retrieving rows from successive **tables** per the **join** order, including:
determining whether a join condition that is being tested refers back to a
more-outer table that is not a directly preceding **table** , if the **join** condition is not met, fetching the next row, if any, from said more-outer
table...
...if the join condition is met, continuing down the join order to examine
any subsequent **tables** in the **join** order, if any, applying any subsequent query conditions, if any, that must be met in...

...rows under examination meets said selection criteria, qualifying those
rows as having satisfied the particular **database** query...

...What is claimed is: 1. In a **database** system for representing information in **database** tables and for retrieving information from **database** tables in response to **database** queries, each **database** table
comprising data records storing information categorized into one or more
database columns, each **database** column storing information as an attribute having a particular data type, a method for **processing** a **database** **query** specifying a join of three or more tables, the method comprising: in response to receiving a particular **database** query specifying a join of three or more **tables** , **determining** a **join** order
for examining the tables during **query** **processing** , wherein said particular **database** query specifies selection criteria including at least
one join condition that must exist between an inner table and an outer table that is not a directly preceding **table** in the **join** order; retrieving rows from successive **tables** per the **join** order, including:
determining whether a join condition that is being tested refers back

to a
more-outer table that is not a directly preceding **table** , if the **join** condition is not met, fetching the next row, if any, from said more-outer
table...

...if the join condition is met, continuing down the join order to examine
any subsequent **tables** in the **join** order, if any, applying any subsequent query conditions, if any, that must be met in...

...rows under examination meets said selection criteria, qualifying those
rows as having satisfied the particular **database** query.

31/69,K/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010955145
WPI ACC NO: 2001-578247/200165
XRPX Acc No: N2001-430163
Relational database **systems, using equijoin operations giving a merge join process that creates sorted set of outer table rows that satisfy selection criteria and enable parallel execution**
Patent Assignee: UNISYS CORP (BURS)
Inventor: LIU L H
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 6185557	B1	20010206	US 1998135312	A	19980731	200165 B

Priority Applications (no., kind, date): US 1998135312 A 19980731

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 6185557	B1	EN	13	4	

Alerting Abstract US B1
NOVELTY - When performing equijoin operations on two tables, as long as outer **table join** column value is less than or equal to last key value, the same data page from inner table will be searched repeatedly. Therefore inner table index records will not be revisited until outer **table join** column is greater than last data page key value. Combination of next key and last key allows merge join process to **determine** that entire ranges of outer rows do not have matching inner rows.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1.A computer readable medium having computer executable modules for joining data rows from two tables .

2.A merge join process for joining data rows from two tables which have a common data column.

USE - Relational **database** systems
ADVANTAGE - Designed to minimize processor time and file input and output when performing equijoin operations on two tables. Reduces or eliminates searches of the inner index records and the data pages. Reduces cache thrashing on the inner index records and so the required index record is likely to be in the cache when needed. Minimizing the traversal of the index records and data pages on mass storage minimizes the number of

operations performed, and therefore provides a more efficient search process. Also , because the merge join process is structurally suited for
execution on the multi-processor computers, the speed of the **database** queries can be increased through parallel processing.

Title Terms/Index Terms/Additional Words: RELATED; **DATABASE** ; SYSTEM; OPERATE; MERGE; JOIN; PROCESS; SORT; SET; OUTER; TABLE; ROW; SATISFY; SELECT; CRITERIA; ENABLE; PARALLEL; EXECUTE

Class Codes
International Classification (Main): G06F-017/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-E01A; T01-H07C5E; T01-J; T01-J05B3; T01-J05B4B;
T01-M02A1; T01-S03

Relational database **systems, using equijoin operations giving a merge join process that creates sorted set of outer...**

Alerting Abstract ...NOVELTY - When performing equijoin operations on two
tables, as long as outer **table** **join** column value is less than or equal
to last key value, the same data page...

...will be searched repeatedly. Therefore inner table index records will
not be revisited until outer **table** **join** column is greater than last data page key value. Combination of next key and last key allows merge join
process to **determine** that entire ranges of outer rows do not have matching inner rows....A computer readable medium having computer executable modules for joining data rows from two **tables** . A merge **join**
process for joining **data** rows from two tables which have a common data
column...

...USE - Relational **database** systems...

...process is structurally suited for execution on the multi-processor computers, the speed of the **database** queries can be increased through parallel processing.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;
Original Publication Data by Authority

Original Abstracts:
...when the inner table is indexed on a data column that is common to both
tables . The merge **join** process creates a set of rows from the outer table that satisfy a selection criteria...

...column in a inner row stored on the data page. The merge join process
also **determines** that a matching inner row does not exist in the inner table when the value...

31/69,K/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010949877 - Drawing available
WPI ACC NO: 2001-572751/200165
XRPX Acc No: N2001-426983
Query generator for database **system,** determines **requirement of aggregation of data in different tables and accordingly generates query**
Patent Assignee: CAVE S D (CAVE-I); FRAGAPANE P (FRAG-I); KEARSEY N (KEAR-I); LAVENDER R L (LAVE-I); NASH K (NASH-I); ORACLE CORP (ORAC-N)
; OSBORN A (OSBO-I)
Inventor: CAVE S D; FRAGAPANE P; KEARSEY N; LAVENDER R; LAVENDER R L; NASH
K; OSBORN A
Patent Family (2 patents, 26 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 1134671	A1	20010919	EP 2000302134	A	20000316	200165	B
US 20020010695	A1	20020124	US 2000730826	A	20001207	200210	E

Priority Applications (no., kind, date): EP 2000302134 A 20000316

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 1134671	A1	EN	15	7	

Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR
IE IT LI LT LU LV MC MK NL PT RO SE SI

Alerting Abstract EP A1
NOVELTY - A processor (3) **determines** whether the input requires a link
of data in different tables and whether aggregation is needed. If required,
the **processor** generates a **query** causing the **database** (2) to aggregate
the data from the required tables.
DESCRIPTION - An INDEPENDENT CLAIM is also included for **data base** system.
USE - For generating a query for obtaining selected data from and into
the **database** .
ADVANTAGE - The query generator can efficiently handle the calculation of
aggregation and linking of data that are stored in different tables. Complex folder structure construction is eliminated when handling a mis-interpreted data.
DESCRIPTION OF DRAWINGS - The figure shows an example of **database** system incorporating a **query** generator and **processor** .
2 **Database**
3 Processor

Title Terms/Index Terms/Additional Words: QUERY; GENERATOR; **DATABASE** ; SYSTEM; **DETERMINE** ; REQUIRE; AGGREGATE; DATA; TABLE; ACCORD;

GENERATE

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F05E; T01-J04A; T01-J05B2; T01-J05B4P

Query generator for database **system,** determines **requirement of aggregation of data in different tables and accordingly generates query**

Alerting Abstract ...NOVELTY - A processor (3) **determines** whether the
input requires a link of data in different tables and whether aggregation
is needed. If required, the **processor** generates a **query** causing the **database** (2) to aggregate the data from the required
tables.DESCRIPTION -
An INDEPENDENT CLAIM is also included for **data base** system...

...USE - For generating a query for obtaining selected data from and into
the **database** .
...
...DESCRIPTION OF DRAWINGS - The figure shows an example of **database** system incorporating a **query** generator and **processor** .
...

...2 **Database**

Title Terms.../Index Terms/Additional Words: **DATABASE** ; ...

... **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
...to a query generator (7) for generating a query for obtaining selected
data from a **database** (2). The query generator (2) includes a processor
(73) which is adapted to receive an...

...indicating the selected data to be obtained. The processor (73) then analyses the input to **determine** whether the input requires a joining of
data in different tables, and an aggregation step. If so, the processor (73) generates a query which causes the **database** (2) to aggregate the data within each of the **tables** as required; and, **join** the aggregated
data, the joined aggregated data representing the selected data...

...relates to a query generator for generating a query for obtaining selected data from a **database** . The query generator includes a

processor
which is adapted to receive an input indicating the selected data to be obtained. The processor then analyses the input to **determine** whether the
input requires a joining of data in different tables, and an aggregation
step. If so, the **processor** generates a **query** which causes the **database**
to aggregate the data within each of the **tables** as required; and, **join**
the aggregated data, the joined aggregated data representing the selected
data.

Claims:

A query generator for generating a query for obtaining selected data from a
database , the **database** having a number of tables in which data is stored, the query generator comprising a processor which is coupled to the
database in use, the processor being adapted to:a. receive an input indicating the selected data to be obtained;b. analyse the input and **determine** whether the input requires a joining of data in different tables, and an aggregation step...

...so, causing the processor to generate a query, the query being adapted
to cause the **database** to:i. aggregate the data within each of the tables
as required; and,ii. join...

...claim: b 1 /b . A query generator for generating a query for obtaining
selected data from a **database** , the **database** having a number of tables
in which data is stored, the query generator comprising a processor which
is coupled to the **database** in use, the processor being adapted to:a. receive an input indicating the selected data to be obtained;b. analyse the
input and **determine** whether the input requires a joining of data in different tables, and an aggregation step...

...so, causing the processor to generate a query, the query being adapted
to cause the **database** to:i. aggregate the data within each of the tables
as required; and,ii. join...

31/69,K/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0010871147
WPI ACC NO: 2001-490570/
Related WPI Acc No: 2000-328999; 2000-339151; 2000-339161; 2000-339162; 2001-490569; 2002-654694; 2002-705322; 2003-584345; 2003-743191; 2004-345205
XRPX Acc No: N2001-363050
Method of providing a description of logic used in processing data **by hierarchically applying a series of decision criteria to the data to produce the outcome and recording a rule** determined **from each such application**
Patent Assignee: NCR CORP (NATC); NCR INT INC (NATC)
Inventor: O'FLAHERTY K W; TATE B D
Patent Family (2 patents, 26 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 1089222	A1	20010404	EP 2000308496	A	20000928	200154	B
US 6631361	B1	20031007	US 1998102831	P	19981002	200374	E
			US 1998102832	P	19981002		
			US 1999410532	A	19991001		

Priority Applications (no., kind, date): US 1998102832 P 19981002; US 1998102831 P 19981002; US 1999410532 A 19991001

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 1089222	A1	EN	19	13	

Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

US 6631361	B1	EN			Related to Provisional US 1998102831
					Related to Provisional US 1998102832

Alerting Abstract EP A1
NOVELTY - The rules which are recorded are those flowing from the application of each decision criteria in a decision tree model. The decisions will typically involve yes/no multiple choice questions and data
are applied to the decision criteria one at a time, in hierarchical order.
Each application provides a rule which is recorded to make all the decisions easily explicable.
DESCRIPTION - INDEPENDENT CLAIMS are included for

1.apparatus for providing a description of logic used in processing data

2.and a program storage device readable by a computer and embodying instructions to cause the computer to perform a method of providing a

description of logic used in processing data.

USE - **Managing** databases.
ADVANTAGE - Provides a comprehensible description of an **automated data**
processing function, e.g. to comply with legislation entitling individuals
to an explanation of the outcome produced by an **automated data** processing system.

Title Terms/Index Terms/Additional Words: METHOD; DESCRIBE; LOGIC; PROCESS;
DATA; HIERARCHY; APPLY; SERIES; DECIDE; CRITERIA; PRODUCE; RECORD; RULE;
DETERMINE

Class Codes
International Classification (Main): G06F-017/00, G06N-005/04

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-E02C; T01-J05B4M; T01-J16C2; T01-S03

Method of providing a description of logic used in processing data **by hierarchically applying a series of decision criteria to the data to produce the outcome and recording a rule** determined **from each such application**

Alerting Abstract ...to cause the computer to perform a method of providing a description of logic used **in processing** data...

...USE - **Managing** databases...

...ADVANTAGE - Provides a comprehensible description of an **automated data** processing function, e.g. to comply with legislation entitling individuals to an explanation of the outcome produced by an **automated data** processing system.

Title Terms.../Index Terms/Additional Words: **DETERMINE**

Original Publication Data by Authority

Original Abstracts:
A method, apparatus, and article of manufacture for providing a description
of logic used in **determining** an outcome based on automatic **processing**
of **data** is disclosed. The method comprises the steps of hierarchically
applying a series of decision criteria to the data to arrive at the outcome, while recording a rule **determined** from application of each decision criteria to the data, and retrieving the recorded rules. The...

...A method, apparatus, and article of manufacture for providing a

description of logic used in **determining** an outcome based on automatic
processing of **data** is disclosed. The method comprises the steps of hierarchically applying a series of decision criteria to the data to arrive
at the outcome, while recording a rule **determined** from application of each decision criteria to the data, and retrieving the recorded rules. The
...
Claims:
A method of providing a description of logic used in **determining** an outcome based on **processing** of **data** , wherein the logic is substantially
describable by a decision tree having a hierarchical set of...

...of decision criteria to the data to arrive at the outcome, while recording a rule **determined** from application of each decision criteria to
the data; andretrieving the recorded rules...

...computer implemented method storable on a recordable media for providing
a description of logic used **in** determining an outcome based **on** processing **of** data, wherein the logic is substantially describable by a
decision tree having a hierarchical set...

...series of decision criteria to the data to arrive at the outcome, while
recording a **rule** determined from application of each decision criteria to
the data;recording an identification of the...

...column having the identification for each recorded rule; andretrieving
the recorded rules, including the **step** of joining **the** results table with a rule table having the set of rules associated with the decision...

31/69,K/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009751834 - Drawing available
WPI ACC NO: 2000-038017/200003
XRPX Acc No: N2000-028660
Query processing **method for** database **management system**
Patent Assignee: ORACLE CORP (ORAC-N)
Inventor: FINNERTY J; RAITTO J; ZIAUDDIN M
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 5991754	A	19991123	US 1998222249	A	19981228	200003	B

Priority Applications (no., kind, date): US 1998222249 A 19981228

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5991754	A	EN	34	9	

Alerting Abstract US A
NOVELTY - If materialized view reflecting specific set of aggregate functions satisfies each set condition, the query is rewritten to produce a rewritten query that references the view. The results of particular function for target population, is derived from variance, sum and count of source population.
DESCRIPTION - The query specifies a predetermined set of aggregate functions including particular function to be applied to target population. The target applied function is an aggregation function comprising variance and standard deviation. The set of conditions include that each aggregate function in predetermined set should be computable from corresponding functions in specific set. The argument to each function in predetermined set should be equivalent to that of corresponding functions in specific set. During testing of each function in predetermined set, it is **determined** whether the particular materialized view includes variance, sum and count of source population on which target population is functionally dependent. An INDEPENDENT CLAIM is also included for a computer program product.
USE - For **database** management system.
ADVANTAGE - The number of materialized views that a **database** must contain to efficient process particular set of queries, is reduced, thus reducing size of **database** and eliminating overhead associated with maintaining the materialized view. Allows more number of queries to correspond with set of materialized views thus improving execution speed.
DESCRIPTION OF DRAWINGS - The figure shows the steps involved in

aggregate compatibility test.

Title Terms/Index Terms/Additional Words: QUERY; PROCESS; METHOD; **DATABASE**
; MANAGEMENT; SYSTEM

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B

Query processing **method for** database **management system**

Alerting Abstract ...corresponding functions in specific set. During testing of each function in predetermined set, it is **determined** whether
the particular materialized view includes variance, sum and count of source
population on which...

...USE - For **database** management system...

...ADVANTAGE - The number of materialized views that a **database** must contain to efficient process particular set of queries, is reduced, thus
reducing size of **database** and eliminating overhead associated with maintaining the materialized view. Allows more number of queries to...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method and system are provided for **processing queries** , where the queries do not reference a particular materialized view. Specifically, techniques are provided for...

...second set of one or more aggregate functions. Whether the query can be
rewritten is **determined** based on the aggregate functions in the first and
second sets, and the corresponding arguments. Techniques are also provided
for **processing** a **query** that (1) does not reference a particular materialized view, (2) specifies a first set of...

...an outer join that has a dimension table on the child-side of the outer
join and a fact **table** on the parent-side of the outer join. The query is
rewritten to produce a...
Claims:
A method for **processing queries** , the method comprising the steps of:receiving a query that does not reference a particular...

...functions;said particular materialized view reflecting a second set of
one or more aggregate functions; **determining** whether the particular materialized view satisfies each condition in a set of conditions, the set
...

...or more corresponding aggregate functions in said second set of aggregate functions, wherein said testing **includes** determining whether
the particular materialized view includes a variance, sum, and count of a
source...

31/69,K/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009621157 - Drawing available
WPI ACC NO: 1999-571522/199948
XRPX Acc No: N1999-421166
Full outer join specification method using SQL for relational database **management system**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: CHENG J M; LEUNG T Y; PIRAHESH M H
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 5963933	A	19991005	US 1997882027	A	19970625	199948	B

Priority Applications (no., kind, date): US 1997882027 A 19970625

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5963933	A	EN	18	7	

Alerting Abstract US A
NOVELTY - The tuples of two **tables** are **joined** by union of a left outer join with a right outer join lesser than matched tuples from right
outer join, using a full outer join. The join condition is free from restrictions of type of join conditions specified.
DESCRIPTION - A **data processor** stores **data** in the form of two tables each defining an operand, which is retrievable by query language.
The join condition is selected from the set of **comparison** operators like
IS NULL, LIKE, EQUALS, DOES NOT EQUAL, IS GREATER THAN, IS LESS THAN, IS
GREATER THAN OR EQUAL TO, IS LESSER THAN OR EQUAL TO. The **comparison** operators are combined with logical operators such as AND, OR, and NOT. An
INDEPENDENT CLAIM is also included for a full outer join specification apparatus.
USE - For relational **database** management system.
ADVANTAGE - The method enables the use of a modified merge join to implement full outer join which enables the use of arbitrary join conditions other than the equality predicate. A full outer join is implemented with any join condition without any new runtime operators.
DESCRIPTION OF DRAWINGS - The figure shows flow chart of implementing full outer join with any join condition.

Title Terms/Index Terms/Additional Words: FULL; OUTER; JOIN; SPECIFICATION;
METHOD; SQL; RELATED; **DATABASE** ; MANAGEMENT; SYSTEM

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;

DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B

Full outer join specification method using SQL for relational database **management system**

Alerting Abstract ...NOVELTY - The tuples of two **tables** are **joined** by
union of a left outer join with a right outer join lesser than matched...
DESCRIPTION - A **data processor** stores **data** in the form of two tables
each defining an operand, which is retrievable by query language. The join
condition is selected from the set of **comparison** operators like IS NULL,
LIKE, EQUALS, DOES NOT EQUAL, IS GREATER THAN, IS LESS THAN, IS GREATER THAN OR EQUAL TO, IS LESSER THAN OR EQUAL TO. The **comparison** operators
are combined with logical operators such as AND, OR, and NOT. An INDEPENDENT CLAIM...

...USE - For relational **database** management system...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Claims:
In a relational **database** management system utilizing a **data processor**
for storing **data** in the form of at least a first table defining a first
operand and a...

...comprised of tuples having one or more columns, wherein the data contained in the relational **database** management system is retrievable by
means of query language queries to the **database** management system, a **data processor** implemented method for returning an answer set from the
data in the tables responsive to a query to the **database** management system, the answer set requiring the matching of tuples from the first table and...

31/69,K/18 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009377831 - Drawing available
WPI ACC NO: 1999-312372/
XRPX Acc No: N1999-233306
Database **table linking method using structured query language for application program interface**
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: KLEEWEIN J C; LIN E T; MAHESHWARI H
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5903893	A	19990511	US 1997931404	A	19970915	199926 B

Priority Applications (no., kind, date): US 1997931404 A 19970915

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5903893	A	EN	9	3	

Alerting Abstract US A
NOVELTY - During composition predicates listing each data value to be accessed from remote table and range of values are provided. During run time if count of data values in local **table** to be **joined** with values in
remote table exceeds threshold value, the predicate indicating range of values is assigned in a query to a **DBMS** and data access is carried out.
DESCRIPTION - If the count does not exceed threshold value then predicate
indicating list of each data value is assigned to a **DBMS** through a structured query language. During predicate assigning, utilization of collating sequences by **DBMS** is also **determined** . An INDEPENDENT CLAIM is
also included for memory media for controlling table linking operation.
USE - For linking **database** table using structured query languages for
application program interface.
ADVANTAGE - Communication cost is reduced by avoiding fetch of unnecessary rows from outer table. Performance of merge operation is improved by reducing cardinality of outer table.
DESCRIPTION OF DRAWINGS - The figure shows logical flow diagram which illustrates operational method of table linking.

Title Terms/Index Terms/Additional Words: **DATABASE** ; TABLE; LINK; METHOD;
STRUCTURE; QUERY; LANGUAGE; APPLY; PROGRAM; INTERFACE

Class Codes
International Classification (Main): G06F-017/30
File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4M; T01-J05B4P; T01-J20B1

Database **table linking method using structured query language for application program interface**

Original Titles:
Method and apparatus for optimizing a merge-join operation across heterogeneous **databases** .

Alerting Abstract ...range of values are provided. During run time if count of data values in local **table** to be **joined** with values in remote
table exceeds threshold value, the predicate indicating range of values is
assigned in a query to a **DBMS** and data access is carried out....exceed
threshold value then predicate indicating list of each data value is assigned to a **DBMS** through a structured query language. During predicate
assigning, utilization of collating sequences by **DBMS** is also **determined**
. An INDEPENDENT CLAIM is also included for memory media for controlling
table linking operation...

...USE - For linking **database** table using structured query languages for
application program interface...

Title Terms/Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
...data in at least two tables, with one of the tables stored in a remote
database (hereafter "remote table") and another table stored in a local
database (hereafter "local table"). The entry values in both the local table and the remote table...

...of the entry values. The method of the join operation generally includes
the steps of: **determining** a count of a number of entry values that reside
in the local table that are to be joined with entry values in the remote
table; **comparing** the count with a threshold value, and (i) if the count
exceeds the threshold value...

...query to the remote table to fetch a range of entry values therefrom,
the range **determined** by the range of entry values to be **joined** from the
local **table** ; and (ii) if the count does not exceed the threshold value,
issuing a query to...

...remote table to fetch each specific entry value that matches the entry
values to be **joined** from the local **table**.

Claims:

A method for performing an enhanced join operation at a local **processor**
between **data** from at least two tables, one table stored in a remote **database** (hereafter "remote table") and a second table stored in a second
database (hereafter "local table") in association with said local processor, said method comprising the steps of...

...relevant to said local table and said remote table and (iii) data entries to be **joined** from said local **table** , and providing a recommended
predicate to be dispatched to said remote table in response to...

...of data values to be accessed from said remote table; b) during a run
time, **determining** if a count of a number of data values in the local **table** to be **joined** with data values in the remote table exceeds or does
not exceed a threshold value...

...said a second predicate is recommended, employing said second predicate
in a query to a **database** management system (**DBMS**) which controls the
remote table to access a range of data values and associated data...
...and said first predicate is recommended, employing said first predicate
in a query to said **DBMS** to access a specific list of data values and associated data from said remote table.

31/69,K/19 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009014159 - Drawing available
WPI ACC NO: 1998-570712/199849
XRPX Acc No: N1998-444203
3-tier query system for database **using query engine for building objects in memory - applies query rewrite optimisations to query from application and applies them to query referencing view type to minimise number of objects built for query**
Patent Assignee: CAREY M J (CARE-I); IBM CORP (IBMC); INT BUSINESS MACHINES CORP (IBMC); KIERNAN G G (KIER-I)
Inventor: CAREY M J; KIERNAN G G
Patent Family (10 patents, 27 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 877328	A2	19981111	EP 1998303616	A	19980508	199849	B
JP 11003359	A	19990106	JP 1998121038	A	19980430	199911	E
JP 11167513	A	19990622	JP 1998122327	A	19980501	199935	E
US 6122627	A	20000919	US 1997853976	A	19970509	200048	E
US 6134540	A	20001017	US 1997853294	A	19970509	200054	E
US 6226637	B1	20010501	US 1997853976	A	19970509	200126	E
			US 1999392360	A	19990908		
US 20010051949	A1	20011213	US 1997853976	A	19970509	200204	E
			US 1999392360	A	19990908		
			US 2001801988	A	20010307		
US 6477527	B2	20021105	US 1997853976	A	19970509	200276	E
			US 1999392360	A	19990908		
			US 2001801988	A	20010307		
JP 3362770	B2	20030107	JP 1998121038	A	19980430	200306	E
JP 2003036272	A	20030207	JP 1998121038	A	19980430	200320	E
			JP 2002125886	A	19980430		

Priority Applications (no., kind, date): US 2001801988 A 20010307; US 1999392360 A 19990908; US 1997853976 A 19970509; US 1997853294 A 19970509

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 877328	A2	EN	36	9	
Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 11003359	A	JA	38		
JP 11167513	A	JA	32		
US 6226637	B1	EN			Continuation of application US 1997853976 Continuation of patent US 6122627
US 20010051949	A1	EN			Continuation of application US 1997853976 Continuation of application US 1999392360 Continuation of patent US 6122627

				Continuation of patent US 6226637
US 6477527	B2	EN		Continuation of application US 1997853976
				Continuation of application US 1999392360
				Continuation of patent US 6122627
				Continuation of patent US 6226637
JP 3362770	B2	JA	40	Previously issued patent JP 11003359
JP 2003036272	A	JA	36	Division of application JP 1998121038

Alerting Abstract EP A2

The query system includes a query engine with the capability to build objects in a memory based on a view type referenced in a query received from an application. Query rewrite optimisations are applied to the query referencing the view type to minimise the number of objects built for the query. Objects are built if the query requests a handle.

Some of the predicates of the query are pushed down to the **database** management system to restrict the results and in this way restrict the number of objects that have to be built to resolve the query.

USE - For systems, methods, and programs in field of integrating object technology with **database** technology in client server environment.

ADVANTAGE - Minimises number of objects built for query.

Title Terms/Index Terms/Additional Words: TIER; QUERY; SYSTEM; **DATABASE** ;

ENGINE; BUILD; OBJECT; MEMORY; APPLY; REWRITING; REFERENCE; VIEW; TYPE;

MINIMISE; NUMBER; **DATABASE** ; MANAGEMENT; SYSTEM

Class Codes

International Classification (Main): G06F-012/00, G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-F07; T01-J05B3; T01-M02A1B

3-tier query system for database **using query engine for building objects in memory...**

Original Titles:

... **Database** query system and method...

... **QUERY PROCESSING** SYSTEM, ITS METHOD, AND RECORDING MEDIUM RECORDED WITH THE PROGRAM

Alerting Abstract ...Some of the predicates of the query are pushed down to the **database** management system to restrict the results and in this

way
restrict the number of objects...

...USE - For systems, methods, and programs in field of integrating object
technology with **database** technology in client server environment...

Title Terms.../Index Terms/Additional Words: **DATABASE** ; ...

... **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
...query results. For example, when a query over a view is analyzed and it
is **determined** that the query is not requesting a handle, and is not referencing a method, but...

...a reference type attribute, but the query can be transformed into a join
or outer **join** operation between relational **tables** , then no object building is required. In these above described situations,the rewritten query can be pushed down to the **database** management system of the data
source for resolution. If the query does request a handle...

...can still be applied so that parts of the query are pushed down to the
DBMS to minimize the number of objects that are built...
...query results. For example, when a query over a view is analyzed and it
is **determined** that the query is not requesting a handle, and is not referencing a method, but...

...a reference type attribute, but the query can be transformed into a join
or outer **join** operation between relational **tables** , then no object building is required. In these above described situations, the rewritten
query can be pushed down to the **database** management system of the data
source for resolution. If the query does request a handle...

...can still be applied so that parts of the query are pushed down to the
DBMS to minimize the number of objects that are built...

...can also be applied so that parts of the query are pushed down to the
DBMS to minimize the number of objects that need to be built...
Claims:
...andmeans for applying query rewrite optimizations to the query referencing the view type, wherein **the** query rewrite optimizations determine which portions of the query to **push** down to a database at a second tier for resolution and which portions of the **query** are to **be**

processed by the query engine at a first tier to build objects from the view...

31/69,K/20 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0009003816 - Drawing available
WPI ACC NO: 1998-559636/
XRPX Acc No: N1998-436409
Join order selecting method implemented on computer for query in database
system - computes value of Sigma metric for each join order of set of possible join orders, selects join order for query with computed values of
Sigma metric, value of join order is sum over all joins in estimate order
of cardinality of each join
Patent Assignee: INFORMIX SOFTWARE INC (INFO-N); INT BUSINESS MACHINES CORP (IBMC)
Inventor: KRISHNA M M
Patent Family (9 patents, 31 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 875838	A2	19981104	EP 1998303480	A	19980505	199848	B
AU 199863568	A	19981105	AU 199863568	A	19980424	199905	E
JP 11007454	A	19990112	JP 1998119252	A	19980428	199912	E
CA 2236494	A	19981102	CA 2236494	A	19980501	199915	E
BR 199801531	A	19990330	BR 19981531	A	19980430	199919	E
MX 199803441	A1	19990201	MX 19983441	A	19980430	200055	E
US 6138111	A	20001024	US 1997850246	A	19970502	200055	E
AU 730251	B	20010301	AU 199863568	A	19980424	200117	E
MX 211203	B	20021106	MX 19983441	A	19980430	200381	E

Priority Applications (no., kind, date): US 1997850246 A 19970502

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 875838	A2	EN	15	6	

Regional Designated States,Original: AL AT BE CH CY DE DK ES FI FR GB GR
IE IT LI LT LU LV MC MK NL PT RO SE SI

JP 11007454	A	JA	13	
CA 2236494	A	EN		
BR 199801531	A	PT		
AU 730251	B	EN		Previously issued patent AU 9863568

Alerting Abstract EP A2
The computer implemented method (2) selects a join order for a query having two or more join operations and computes a value of a Sigma metric
for each join order of a set of possible join orders. A join order is selected for the query using the computed values of the Sigma metric.
The value of the join order of is the sum of cardinailities over all the
joins in the join order. An estimate of the cardinality of each join is generated as it is performed in the join order; the cardinality of a

join
is the number of tuples that will result from the join.
USE - Query optimisation in **database** system and to join order optimisation in relational **database** systems.
ADVANTAGE - Calculates good join order in multiple join order query by
using metric designed to **compare** relative efficiencies of alternative join orders.

Title Terms/Index Terms/Additional Words: JOIN; ORDER; SELECT; METHOD; IMPLEMENT; COMPUTER; QUERY; **DATABASE** ; SYSTEM; COMPUTATION; VALUE; SIGMA
; METRIC; SET; POSSIBILITY; SUM; ESTIMATE

Class Codes
International Classification (Main): G06F-017/00, G06F-017/30, G11B-017/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3

Join order selecting method implemented on computer for query in database
system...

Alerting Abstract ...USE - Query optimisation in **database** system and to
join order optimisation in relational **database** systems...

...ADVANTAGE - Calculates good join order in multiple join order query by
using metric designed to **compare** relative efficiencies of alternative join orders.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
Method and apparatus for optimizing the **processing** of join **queries** based on join cardinality. Embodiments implement the methods in query optimizers in relational **database** management systems. A good join order
for a multiple join query is found with a metric that **compares** the relative merits of candidate join orders as a whole. Embodiments estimate
the join selectivity of foreign key - foreign key **joins** , where both participating **tables** are foreign keys with respect to a primary or unique
key of one primary table. A graph representation of a **query** is **processed**
to estimate the join cardinality of an arbitrarily large number of filters
and joins, including...

...Method and apparatus for optimizing the **processing** of join **queries**
based on join cardinality. Embodiments implement the methods in query optimizers in relational **database** management systems. A good join order
for a multiple join query is found with a metric that **compares** the relative merits of candidate join orders as a whole. Embodiments estimate
the join selectivity of foreign key--foreign key **joins** , where both participating **tables** are foreign keys with respect to a primary or unique
key of one primary table. A graph representation of a **query** is **processed**
to estimate the join cardinality of an arbitrarily large number of filters
and joins, including...

31/69,K/21 (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008778448 - Drawing available
WPI ACC NO: 1998-322214/
XRPX Acc No: N1998-252044
Query optimisation method for relation database **- involves finding JOIN conditions to form chain to form** tables **according to graph** join **theory and reordering in FROM clause**
Patent Assignee: BULL HN INFORMATION SYSTEMS INC (HONE)
Inventor: GRAY J E
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5758335	A	19980526	US 1996722825	A	19960927	199828 B

Priority Applications (no., kind, date): US 1996722825 A 19960927

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5758335	A	EN	7	1	

Alerting Abstract US A
The query optimisation method involves examining the WHERE clause and finding all join conditions that are present. A chain of the join conditions is formed.
A list of tables is established where i) tables that are in the WHERE clause but not in the join conditions are listed first; ii) **tables** in the **join** chains formed according to graph theory are listed next in the same order as they appear in the join chain such that the tables from the longest chains are listed before the tables from shorter chains and all tables at a given distance from a root table of the chain occur together before the next level in the **join** chain. The **tables** are reordered in the FROM clause in the list order.
ADVANTAGE - Quickly finds access plan. Orders tables in FROM clause according to optimal join order in WHERE clause **determined** by graph theory.

Title Terms/Index Terms/Additional Words: QUERY; OPTIMUM; METHOD; RELATED; **DATABASE** ; FINDER; JOIN; CONDITION; FORM; CHAIN; TABLE; ACCORD; GRAPH; THEORY

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4B

Query optimisation method for relation database - ...

...**involves finding JOIN conditions to form chain to form** tables **according to graph** join **theory and reordering in FROM clause**

Original Titles:
Optimizing **table join** ordering using graph theory prior to query optimization.

Alerting Abstract ...are in the WHERE clause but not in the join conditions are listed first; ii) **tables** in the **join** chains formed according to graph theory are listed next in the same order as they...

...from a root table of the chain occur together before the next level in
the **join** chain. The **tables** are reordered in the FROM clause in the list
order...

...access plan. Orders tables in FROM clause according to optimal join order in WHERE clause **determined** by graph theory.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method for improving the efficiency of queries in relational **database**
management systems that use the exhaustive method of query optimization.
The join structure of the...
Claims:
In a relational **database** computer system including a **data processor**
, a stored **database** and a plurality of **database** tables wherein one or
more of the tables are retrieved by the processor by means of query commands performing a plurality of **join** operations on the **tables** using
a WHERE clause and a FROM clause, a method for improving the query optimization...

...are in the WHERE clause but not in the join conditions are listed first;
ii) **tables** in the **join** chains formed according to graph theory are listed next in the same order as they...

31/69,K/22 (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008596940 - Drawing available
WPI ACC NO: 1998-132793/199813
XRPX Acc No: N1998-104911
Method of sending data from database **to computer display of varying sizes**
- by selecting One of query tables for focused display on computer output
device, focused display is provided for displaying all attributes of selected query table
Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU); MATSUSHITA ELECTRIC
IND CO LTD (MATU); MATSUSHITA ELECTRIC SANGYO KK (MATU)
Inventor: ALONSO R; MANI V S
Patent Family (10 patents, 26 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 827091	A2	19980304	EP 1997305515	A	19970723	199813	B
JP 10228366	A	19980825	JP 1997232966	A	19970828	199844	E
US 5848406	A	19981208	US 1996707214	A	19960903	199905	E
KR 1998024174	A	19980706	KR 199740750	A	19970825	199926	E
CN 1176430	A	19980318	CN 1997117921	A	19970902	200209	E
KR 311734	B	20011217	KR 199740750	A	19970825	200249	E
EP 827091	B1	20030312	EP 1997305515	A	19970723	200319	E
DE 69719641	E	20030417	DE 69719641	A	19970723	200333	E
			EP 1997305515	A	19970723		
JP 3529986	B2	20040524	JP 1997232966	A	19970828	200434	E
CN 1097796	C	20030101	CN 1997117921	A	19970902	200532	E

Priority Applications (no., kind, date): EP 1997305515 A 19970723; US 1996707214 A 19960903

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 827091	A2	EN	17	8	
Regional Designated States,Original: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI					
JP 10228366	A	JA	11	8	
KR 1998024174	A	KO		8	
KR 311734	B	KO			Previously issued patent KR 98024174
EP 827091	B1	EN			
Regional Designated States,Original: DE FR GB					
DE 69719641	E	DE			Application EP 1997305515 Based on OPI patent EP 827091
JP 3529986	B2	JA	10		Previously issued patent JP 10228366

Alerting Abstract EP A2
The method involves **processing** a **query** of the **database** , the query

containing query tables. Weights for each pair of query tables are **determined** , the weights is indicative of occurrence of the query table pairs in previous queries. Sets of the query table pairs are **determined**
based on the weights. One of the sets which contains query tables specified
in the query are sent to the computer output device. A grouping threshold
level is based upon display size of the computer output device so that each
the set of the sending step can be substantially displayed within display
size of the computer output device. One of the query tables is selected for
a focused display on the computer output device, the focused display is provided for displaying all attributes of the selected query table and all
attributes of neighbours of the selected query table on the computer output
device.

ADVANTAGE - Allows user to make use of very small display surface such as
those found in mobile computer such as personal digital assistant.

Title Terms/Index Terms/Additional Words: METHOD; SEND; DATA; **DATABASE** ;
COMPUTER; DISPLAY; VARY; SIZE; SELECT; ONE; QUERY; TABLE; FOCUS; OUTPUT;
DEVICE; ATTRIBUTE

Class Codes
International Classification (Main): G06F-013/18, G06F-017/30, G06F-003/00,
G06F-003/14

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-C04; T01-H07C3C; T01-J12B

Method of sending data from database **to computer display of varying sizes**
...

Alerting Abstract ...The method involves **processing** a **query** of the
database , the query containing query tables. Weights for each pair of query tables are **determined** , the weights is indicative of occurrence of
the query table pairs in previous queries. Sets of the query table pairs
are **determined** based on the weights. One of the sets which contains query
tables specified in the...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method for presenting information on display devices of varying sizes.
The method **processes** a **query** of a **database** and **determines** which tables are most likely to contain information which the user wishes to primarily view. The **join** relationships between **tables** of the **database**
are used to **determine** the priority for displaying **tables** . Those **join**
relationships which were used more frequently in previous queries are accorded higher weight scores and...

...A method for presenting information on display devices of varying sizes.
The method **processes** a **query** of a **database** and **determines** which tables are most likely to contain information which the user wishes to primarily view. The **join** relationships between **tables** of the **database**
are used to **determine** the priority for displaying **tables** . Those **join**
relationships which were used more frequently in previous queries are accorded higher weight scores and...
Claims:
1. A method for sending data from a **database** to a computer output device,
said **database** including a plurality of tables for holding said data, said
database having a schema indicative of relationships between said tables,
said tables having attributes, said attributes containing said data, the
method comprising: /br **processing** a **query** of said **database** , said
query containing query tables; /br **determining** weights for each pair
of query tables, said weights being indicative of occurrence of said query
table pairs in previous queries; /br **determining** sets of said query
table pairs based on said weights; and /br sending to said computer...

...A method for sending data from **a** database to a computer output device
having a predetermined display size, **said** database including a plurality
of tables for holding said data, **said** database having a schema indicative
of relationships between said tables, said tables having attributes, said
attributes containing said data, the method **comprising** :processing **a**
query of **said** database, said query containing query **tables**
;determining
weights for each pair of query tables, said weights being indicative of
occurrence of said query table pairs in previous **queries** ;determining
sets

of said query table pairs based on said weights;selecting said sets depending...
...consistant a:traiter une requete de ladite base de donnees, ladite requete contenant des tableaux **de** requete;determiner des poids pour chaque paire de tableaux de requete, lesdits poids indiquant l'occurrence
desdites paires de tableaux de requete dans des **requetes** precedentes;determiner des ensembles desdites paires de tableaux de requete
en fonction desdits poids;selectionner...

...A method for sending **data** from a database to a computer **output** device, said database including a plurality of tables for holding **said** data, said database having a schema indicative of relationships between said tables, said tables having attributes, said attributes containing said
data, **the** method **comprising** :processing a **query** of said database, said
query **containing** query tables;determining weights for each pair of query
tables, said weights being indicative of occurrence of said query table pairs **in** previous queries;determining sets of said query table pairs based on said weights; andsending...

31/69,K/23 (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008157260 - Drawing available
WPI ACC NO: 1997-258537/
XRPX Acc No: N1997-213868
Computer system for creating and storing resultant database **using ANSI-92**
SOL2 outer join protocol - has second memory device which is coupled to central processing unit and has push-pop stack area and storage area for
nodes
Patent Assignee: DAVID M M (DAVI-I)
Inventor: DAVID M M
Patent Family (1 patents, 1 countries)

Patent			Application			
Number	Kind	Date	Number	Kind	Date	Update
US 5625812	A	19970429	US 1994339454	A	19941114	199723 B

Priority Applications (no., kind, date): US 1994339454 A 19941114

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5625812	A	EN	10	3	

Alerting Abstract US A
The system includes a central processing unit with a first memory storage device containing at least a first normalised, relational **database** . A second memory device coupled to the central processing unit, has a push-pop stack area and a storage area for nodes.
The first memory device has a set of instructions for controlling the central processing unit to parse the outer join protocol statement into a number of tokens for execution by the central processing unit in accord with the grammar, syntax and semantics, of ANSI-92 SQL2 outer join protocol for controlling the actions of the central processing unit. The tokens from the outer join statement are sequentially parsed to identify if the token being parsed is a **table** name, **join** type (left or right), or a join condition.
ADVANTAGE - Increases accuracy and efficiency of cental processing units operation.

Title Terms/Index Terms/Additional Words: COMPUTER; SYSTEM; STORAGE; RESULT ; **DATABASE** ; OUTER; JOIN; PROTOCOL; SECOND; MEMORY; DEVICE; COUPLE; CENTRAL; PROCESS; UNIT; PUSH; POP; STACK; AREA; NODE

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-H07P; T01-J05B

Computer system for creating and storing resultant database **using ANSI-92
SOL2 outer join protocol...**

Alerting Abstract ...processing unit with a first memory storage device
containing at least a first normalised, relational **database** . A second memory device coupled to the central processing unit, has a push-pop stack
...

...outer join statement are sequentially parsed to identify if the token
being parsed is a **table** name, **join** type (left or right), or a join condition...

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A method for **determining** data structure by analyzing an outer join protocol statement used to access the data by...

...The top three data are popped from the push-pop stack and represent a
right **database** root structural node token, a join type token (left or right), and a left **database** structural root node token. The right and left node structures represented by the popped root...

...node structure is pushed back onto the push-pop stack. When all tokens
have been **processed** , the node **data** represented by the resulting root
node on the push-pop stack is ordered in accordance...
Claims:
...protocol for manipulating data contained in the computer system to create and store a resultant **database** having a known hierarchial data structure represented by an outer join protocol statement, the computer...

...unit coupled with a first memory storage means containing at least a first normalized, relational **database** , each **database** in said first storage means including a plurality of data having a known hierarchial data
...

...tokens from the outer join statement to identify if the token being parsed is a **table** name, **join** type (left or right), or a join condition;
(iii) pushing a new root structural node...

...data items from said push-pop stack in said second memory means representing a right **database** root structural node token, a join type token (left or right), and a left **database** structural root node token;
(vii) linking the right and left node structures represented by the...

...the structural node points specified by the current join condition token
where the lowest level **table** referenced from said **join** condition in left and right structures are the link node points and the popped join...

31/69,K/24 (Item 24 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0008127273 - Drawing available
WPI ACC NO: 1997-226709/
XRPX Acc No: N1997-187517
Relational database **optimisation method for encoding/decoding tables -**
involves identifying hub table and generating best access plan for joining
hub table and associated spoke tables which are referenced in query and joining all table referenced in query statement
Patent Assignee: IBM CANADA LTD (IBMC); INT BUSINESS MACHINES CORP (IBMC)
Inventor: LOHMAN G M; SCHIEFER B; URATA M S
Patent Family (3 patents, 2 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
CA 2168287	A	19961001	CA 2168287	A	19960129	199721	B
US 5930785	A	19990727	US 1995414835	A	19950331	199936	E
			US 1997950674	A	19971016		
CA 2168287	C	20000523	CA 2168287	A	19960129	200039	E

Priority Applications (no., kind, date): US 1997950674 A 19971016; US 1995414835 A 19950331

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
CA 2168287	A	EN	31	8	
US 5930785	A	EN			Continuation of application US 1995414835
CA 2168287	C	EN			

Alerting Abstract CA A
The relational **database** management method involves **determining** whether tables referenced in a query include a hub table (T0) and at least two encoding tables or spoke tables (T1-T4). This involves counting the number of tables which are joined to each **table** in memory by **join** predicates and storing the identity of the table with the largest number of tables joined to it.
When a hub table is identified a best access plan is constructed for joining the hub table and associated spoke tables. A plan for joining all tables reference in the query statement is generated. All of the plans are enumerated to **determine** the best plan for joining the tables reference in the query statement.
USE/ADVANTAGE - Optimises queries in relational **databases** which reference encoding/decoding tables.

Title Terms/Index Terms/Additional Words: RELATED; **DATABASE** ; OPTIMUM; METHOD; ENCODE; DECODE; TABLE; IDENTIFY; HUB; GENERATE; ACCESS; PLAN;

JOIN; ASSOCIATE; SPOKE; REFERENCE; QUERY; STATEMENT

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4B; T01-J05B4M; T01-S01B

Relational database **optimisation method for encoding/decoding tables...**

Alerting Abstract ...The relational **database** management method involves
determining whether tables referenced in a query include a hub table (T0)
and at least two...

...tables (T1-T4). This involves counting the number of tables which are
joined to each **table** in memory by **join** predicates and storing the identity of the table with the largest number of tables joined...

...tables reference in the query statement is generated. All of the plans
are enumerated to **determine** the best plan for joining the tables reference in the query statement...

...USE/ADVANTAGE - Optimises queries in relational **databases** which reference encoding/decoding tables.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Original Abstracts:
A join optimizer and method for a relational **database** management system
including a **data processor** , a stored **database** , and a plurality of **database** relations, wherein one or more of the relations are retrieved by
the processor by means...

...products as late in the join sequence as possible, the method includes
the steps of **determining** , in association with the execution of, or preferably prior to executing the general purpose algorithm...

...and, when the query command references a hub table and at least two encoding tables, **determining** the best access plan for the hub table, **determining** whether the best access plan utilizes an index used to access
the hub table and, if so, constructing a plan to **join** the encoding **tables** as Cartesian products, constructing a plan to **join** the hub **table**
and the encoding tables and storing the plans in the data structures

of
the optimizer...
Claims:
In a relational **database** management system including a **data processor**
, a stored **database** , and a plurality of **database** relations stored in
the form of tables, wherein one or more of said relations are...

...third tables, and further including a join predicate between relations
of the first and second **tables** and a **join** predicate between relations
of the first and third tables, but not including a join predicate...

...an optimizing module for use in optimizing query commands, the optimizing module comprising:means for **determining** that the first table
referenced in the query statement is a hub table, and for **determining** that the second and third tables are spoke tables associated with the hub
table because...

...referenced in said query statement; andmeans for enumerating the first,
second, and third plans **to** determine the best plan for joining said tables referenced in said query statement.

31/69,K/25 (Item 25 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0007255993 - Drawing available
WPI ACC NO: 1995-310325/
XRPX Acc No: N1995-234268
Relational data base **contg number of tables qualification performing -**
establishing range variable processing order, which resolves processing ambiguities both in ordering range variables and eliminates false roots
Patent Assignee: HUGHES AIRCRAFT CO (HUGA)
Inventor: DEPREZ D
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 5423035	A	19950606	US 1992996305	A	19921223	199540 B

Priority Applications (no., kind, date): US 1992996305 A 19921223

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 5423035	A	EN	13	5	

Alerting Abstract US A
The method involves establishing a user query as to a set of tables. followed by reducing the user query into component joins in the form of f(A) join f(B), or constant join f(A), wherein f(A) represents a function upon the fields of a table A and f(B) represents a function upon the fields of a table B.
The method also entails establishing a processing order for the tables, which is selected so as to be consistent with that required by any outer-joins in the user query, e.g. the first in order table comprises the root. Further it includes evaluating each component join to produce respective pointer table indexes.
USE/ADVANTAGE - In computerised relational **data base** . Speed up qualification **processing** of **data base** that eliminates needs for user defined index.

Title Terms/Index Terms/Additional Words: RELATED; DATA; BASE; CONTAIN; NUMBER; TABLE; QUALIFY; PERFORMANCE; ESTABLISH; RANGE; VARIABLE; PROCESS; ORDER; RESOLUTION; AMBIGUOUS; ELIMINATE; FALSE; ROOT

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B3; T01-S

Relational data base **contg number of tables qualification performing...**

Original Titles:
Method for evaluating relational **database** queries with automatic indexing
and ordering of join components

Alerting Abstract ...USE/ADVANTAGE - In computerised relational **data base** . Speed up qualification **processing** of **data base** that eliminates
needs for user defined index.

Original Publication Data by Authority

Original Abstracts:
A computer-implemented method that speeds up relational **database** qualification processing by emulating the function of a multiple dimension
index, including constant expressions and...
Claims:
A computer implemented method for performing relational **database** qualifications on a **database** comprising a plurality of tables, each table
including fields and tuples, the method comprising the...

...in a child table and wherein one or more indexes that point to a particular **table** comprise a **join** vector for that **table** ; (E) ordering
the **join** vectors in same order as the processing order on the basis of
the associated tables...

...as a pointer to a current tuple of the associated table and will assume
values **determined** by (a) processing of the join vector for the associated
table if the associated table...

...the associated table if the associated table is not referenced by a join
vector; (G) **determining** range variable values as follows: (a) for a **table** referenced by a **join** vector, successively evaluating the associated **join** vector for each **table** in the processing order to **determine** an associated range variable value, wherein evaluation of a join
vector comprises **determining** a set of pointers currently pointed to by
each index in the joint vector and taking an intersection or union of each
set of pointers as **determined** by the relationships of component joins corresponding to the indexes in the joint vector; (b...

...result each time the range variable of the last table in the processing
order is **determined** in step (G).

31/69,K/26 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0006276092 - Drawing available
WPI ACC NO: 1993-068935/199309
XRPX Acc No: N1993-052911
Data processing **system for execution of outer join operations - responds to values in selected set of columns of outer table, to** determine
number of responsible regions of inner table
Patent Assignee: INT BUSINESS MACHINES CORP (IBMC)
Inventor: CHENG J; CHENG J M; MOHAN C; PIRAHESH M H
Patent Family (4 patents, 3 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
EP 529916	A2	19930303	EP 1992307535	A	19920818	199309	B
EP 529916	A3	19931020	EP 1992307535	A	19920818	199510	E
US 5551031	A	19960827	US 1991749088	A	19910823	199640	E
			US 1994325942	A	19941019		
			US 1995487300	A	19950607		
US 5557791	A	19960917	US 1991749088	A	19910823	199643	E
			US 1994325942	A	19941019		

Priority Applications (no., kind, date): US 1995487300 A 19950607; US 1994325942 A 19941019; US 1991749088 A 19910823

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
EP 529916	A2	EN	24	3	
Regional Designated States,Original: DE FR GB					
EP 529916	A3	EN			
US 5551031	A	EN	26	10	Continuation of application US 1991749088
					Division of application US 1994325942
US 5557791	A	EN	27	10	Continuation of application US 1991749088

Alerting Abstract EP A2
The system has a device for storing tables consisting of a number of tuples having multiple columns. An outer join operation is perferred on two such tables, one table being an inner table and the other an outer. The outer table is ordered or indexed in a sorted sequence on a selected set of columns.
A device, responsive to values in the selected set of columns, **determine** a number of responsibility regions in the inner table such that every tuple in the inner table belongs to one and only one region. The tuples of the inner table are processed in each responsibility region by outputting all tuples which belong to the region.

ADVANTAGE - Is capable of outputting all tuples of inner **table** in output of **join** operation without requiring sorting of inner table.

Title Terms/Index Terms/Additional Words: DATA; PROCESS; SYSTEM; EXECUTE;
OUTER; JOIN; OPERATE; RESPOND; VALUE; SELECT; SET; COLUMN; TABLE; **DETERMINE** ; NUMBER; RESPONSIBLE; REGION; INNER

Class Codes
International Classification (Main): G06F-015/40, G06F-017/30

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4

Data processing **system for execution of outer join operations...**

...responds to values in selected set of columns of outer table, to determine **number of responsible regions of inner table**

Original Titles:
...product for outer join operations using responsibility regions assigned
to inner tables in a relational **database** .
...

...Outer join operations using responsibility regions assigned to inner tables in a relational **database** .

Alerting Abstract ...A device, responsive to values in the selected set
of columns, **determine** a number of responsibility regions in the inner table such that every tuple in the...

...ADVANTAGE - Is capable of outputting all tuples of inner **table** in output of **join** operation without requiring sorting of inner table.

Title Terms.../Index Terms/Additional Words: **DETERMINE** ;

Original Publication Data by Authority

Original Abstracts:
A **data processing** system and method are described for performing an outer **join** of **database tables** without sorting the inner table (T2).
The **data processing** system comprises: means for storing tables consisting of a plurality of tuples having multiple columns...

...means, responsive to values in the selected set of columns of the outer
table, for **determining** a plurality of responsibility regions in the inner
table such that every tuple in the...

...A computer **database** system utilizes a method for performing a right

outer **join** of **database** **tables** without sorting the inner table (T2).
The processing of each tuple in the outer table...

...A computer **database** system utilizes a method for performing a right
outer **join** of **database** **tables** without sorting the inner table (T2).
The processing of each tuple in the outer table...
Claims:
1. A **data** **processing** system comprising: /br means for storing tables
consisting of a plurality of tuples having multiple columns...

...means, responsive to values in the selected set of columns of the outer
table, for **determining** a plurality of responsibility regions in the inner
table such that every tuple in the...

...perform method steps for performing a right outer join with specified
join predicates in a **database** system having an inner table and an outer
table, each of which tables is composed...

...indexed in a sorted sequence on a selected set of columns, said method
steps comprising: /br **determining** a plurality of responsibility regions
in the inner table using a selected set of columns...

...An improved method of performing a fight outer join with specified join
predicates in a **computerized** database system having an inner table and an
outer table, each of which tables is...

...a sorted sequence on a selected set of columns, the improvement
comprising the steps of: /br (**a**) determining a plurality of
responsibility regions in the inner table using a selected set of...

35/69,K/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014824247 - Drawing available
WPI ACC NO: 2005-171937/
Related WPI Acc No: 2004-624649; 2004-675766; 2004-675775; 2004-675776; 2004-688879; 2004-689370
XRPX Acc No: N2005-143507
Distributed database **processing method for e.g. business applications,**
involves configuring cluster of computers with ability to programmatically
communicate with each other through electrical or optical connection
Patent Assignee: JARDIN C A (JARD-I)
Inventor: **JARDIN C A**
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20050033818	A1	20050210	US 2003345811	A	20030116	200518 B

Priority Applications (no., kind, date): US 2003345811 A 20030116

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20050033818	A1	EN	6	2	

Alerting Abstract US A1

NOVELTY - A cluster of computers is defined as a group of computers with
the ability to programmatically communicate with each other through electrical or optical connection. Each computer in the cluster is configured with the **database** server.

USE - For processing distributed **database** in clustered computing environment for e.g. business applications.

ADVANTAGE - Increases the **database** performance by distributing **database** load across a group, or cluster of computers.

DESCRIPTION OF DRAWINGS - The figure shows the flowchart illustrating process of system for **database** request handling with load distribution of
the **database** request to cluster of computers.

Technology Focus

INDUSTRIAL STANDARDS - The cluster of computers is created using an ~Ethernet~ network.

Title Terms/Index Terms/Additional Words: DISTRIBUTE; **DATABASE** ; PROCESS;
METHOD; BUSINESS; APPLY; CLUSTER; COMPUTER; ABILITY; COMMUNICATE; THROUGH
; ELECTRIC; OPTICAL; CONNECT

Class Codes
International Classification (Main): G06F-015/167
(Additional/Secondary): G06F-015/16, G06F-017/30, G06F-007/00

File Segment: EPI;

DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4A; T01-M02A; T01-N02B1A

Distributed database **processing method for e.g. business applications,**
involves configuring cluster of computers with ability to...

Original Titles:
System and method for distributed **database** processing in a clustered environment
Inventor: **JARDIN C A**

Alerting Abstract ...other through electrical or optical connection. Each
computer in the cluster is configured with the **database** server.USE - For
processing distributed **database** in clustered computing environment for
e.g. business applications...

...ADVANTAGE - Increases the **database** performance by distributing **database** load across a group, or cluster of computers...

...DESCRIPTION OF DRAWINGS - The figure shows the flowchart illustrating
process of system for **database** request handling with load distribution of
the **database** request to cluster of computers.

Title Terms.../Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Inventor name & address:
Jardin, Cary Anthony ...
Original Abstracts:
The present invention provides a system for distributing **database** processing across a loosely coupled hardware platform, or a computer cluster. The system divides the data held within the **database** across all
available resources, and then submits the **database** queries in parallel to
all points of data storage. Once all resources have received and processed
the **database** query, the results are sent back to a single point for final
reassembly.
Claims:
What is claimed is: b 1 /b . A method for distributed **database** processing in a clustered computing environment comprising: a) a computer
cluster defined as a group...
...ability to programmatically communicate with one another via electrical
or optical connection; and b) a **database** server on each computer in the
cluster.

35/69,K/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0014434216 - Drawing available
WPI ACC NO: 2004-624649/200460
Related WPI Acc No: 2004-675766; 2004-675775; 2004-675776; 2004-688879; 2004-689370; 2005-171937
XRPX Acc No: N2004-493996
Database **performance accelerating method for use in business, involves**
determining whether request is local or remote request and forwarding request to remote slave system for retrieval if it is remote request
Patent Assignee: JARDIN C A (JARD-I)
Inventor: **JARDIN C A**
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20040158550	A1	20040812	US 2003345504	A	20030116	200460 B

Priority Applications (no., kind, date): US 2003345504 A 20030116

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20040158550	A1	EN	5	2	

Alerting Abstract US A1

NOVELTY - The method involves determining whether a **database** request received by a master **database** system is an information retrieval request or storage request. The request is determined to be a local or remote request. The master **database** behavior is invoked to retrieve the requested information if the request is a local request. The request is forwarded to a remote slave system for retrieval if the request is a remote request.

USE - Used for accelerating **database** performance in a business.

ADVANTAGE - The method allows the existing **database** applications to delegate costly transactions to the main memory **database** system while maintaining persistent and coherent storage on the existing **database** , thereby providing increased information retrieval speed.

DESCRIPTION OF DRAWINGS - DESCRIPTION OF DRAWING - The drawing shows a block diagram of a **database** request handling system to accomplish **database** acceleration.

Title Terms/Index Terms/Additional Words: **DATABASE** ; PERFORMANCE; ACCELERATE; METHOD; BUSINESS; DETERMINE; REQUEST; LOCAL; REMOTE; FORWARDING; SLAVE; SYSTEM; RETRIEVAL

Class Codes
International Classification (Main): G06F-017/30

File Segment: EPI;
DWPI Class: T01

Manual Codes (EPI/S-X): T01-J05B4A; T01-N03A2

Database **performance accelerating method for use in business, involves determining whether request is local or remote...**

Original Titles:
System and method for cooperate **database** acceleration
Inventor: **JARDIN C A**

Alerting Abstract ...NOVELTY - The method involves determining whether a **database** request received by a master **database** system is an information retrieval request or storage request. The request is determined to be a local or remote request. The master **database** behavior is invoked to retrieve the requested information if the request is a local request... USE - Used for accelerating **database** performance in a business...

...ADVANTAGE - The method allows the existing **database** applications to delegate costly transactions to the main memory **database** system while maintaining persistent and coherent storage on the existing **database** , thereby providing increased information retrieval speed...

...DESCRIPTION OF DRAWINGS - DESCRIPTION OF DRAWING - The drawing shows a block diagram of a **database** request handling system to accomplish **database** acceleration.

Title Terms/Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Inventor name & address:
Jardin, Cary Anthony ...
Original Abstracts:
The present invention provides a system to allow existing **database** applications to delegate costly transactions to a main memory **database** system while maintaining persistent and coherent storage on the existing **database** . The system utilizes **database** heterogeneous transaction support to delegate desired transaction without modification of existing **database** application logic. Persistency is maintained on the host **database** by replicating state change operations onto the associated main memory system.
In this way, the present invention provides the performance of a main memory **database** system, with the required persistency of existing **database** technologies.
Claims:
What is claimed is: b 1 /b . A method for cooperative **database** performance comprising:a) **database** system with heterogeneous query support (master); andb) main **memory** database system (slave).

35/69,K/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013733217 - Drawing available
WPI ACC NO: 2003-831305/
XRPX Acc No: N2003-664280
Database **transactions translation method in electronic commerce, involves intercepting network packet having** database **transaction, for translation to desired vendor-specific form**
Patent Assignee: JARDIN C A (JARD-I)
Inventor: **JARDIN C A**
Patent Family (1 patents, 1 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
US 20030187816	A1	20031002	US 2002108782	A	20020327	200377 B

Priority Applications (no., kind, date): US 2002108782 A 20020327

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030187816	A1	EN	12	6	

Alerting Abstract US A1
NOVELTY - A network packet having **database** transaction, is selectively intercepted. The **database** transaction is translated to a desired vendor-specific form, and the source and destination addresses of a newly created packet are selectively masked, based on the nature of the **database** transaction.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1. database translating system; and

2.database transactions translating system.

USE - For **translating** database transactions to desired vendor specific form in electronic commerce and real-time information retrieval applications.
ADVANTAGE - Enables translating and analyzing **the** database transactions, effectively. The newly created packet is transparent to other devices in the network, as the source and destination addresses of the newly created packet are selectively masked.
DESCRIPTION OF DRAWINGS - The figure shows a flow chart explaining **the** database transactions translation process.

Title Terms/Index Terms/Additional Words: **DATABASE** ; TRANSACTION; TRANSLATION; METHOD; ELECTRONIC; INTERCEPT; NETWORK; PACKET; VENDING; SPECIFIC; FORM

Class Codes
International Classification (Main): G06F-007/00

File Segment: EPI;
DWPI Class: T01
Manual Codes (EPI/S-X): T01-J05B4P; T01-N01A2A

Database **transactions translation method in electronic commerce, involves intercepting network packet having** database **transaction, for translation to desired vendor-specific form**

Original Titles:
System and method for transparent **database** conversion
Inventor: **JARDIN C A**

Alerting Abstract ...NOVELTY - A network packet having **database** transaction, is selectively intercepted. The **database** transaction is translated to a desired vendor-specific form, and the source and destination addresses of a newly created packet are selectively masked, based on the nature of the **database** transaction.... **database** translating system; anddatabase transactions translating system...
...USE - For **translating** database transactions to desired vendor specific form in electronic commerce and real-time information retrieval...

...ADVANTAGE - Enables translating and analyzing **the** database transactions, effectively. The newly created packet is transparent to other devices in the network...

...DESCRIPTION OF DRAWINGS - The figure shows a flow chart explaining **the** database transactions translation process.

Title Terms/Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Inventor name & address:
Jardin, Cary A ...
Original Abstracts:
A method and system for accomplishing transparent **database** translation.
The architecture determines from the nature of a packet on a network the whether the packet is a **database** transaction. If the packet is a **database** transaction, it is suitably intercepted for further analysis. The packet is then suitably converted into...

...form different than the form of the intercepted packet and sent to a target vendor **database** server. When the new packet is created for transmission to the target **database** server, it is created such that

it
appears to the devices on the network as...
Claims:
What is claimed is: b 1 /b . A method of translating **database** transactions to a desired vendor-specific form comprising the steps of:determining whether a first network packet involves a **database** transaction;selectively intercepting the first network packet upon determining that the network packet involves a **database** transaction;determining the nature of the **database** transaction;selectively translating the **database** transaction to a desired
vendor-specific form based upon the determined nature of the **database** transaction;creating a second network packet; andselectively masking at least one of the source and destination addresses of the second network packet based upon the nature of **the** database transaction.

35/69,K/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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0013513399 - Drawing available
WPI ACC NO: 2003-606238/
XRPX Acc No: N2003-483288
Database **transactions accelerating method, involves determination of** database **transaction and its kind in one network packet and application of** database **acceleration technique to form another network packet**
Patent Assignee: JARDIN C A (JARD-I); NEXTGIG INC (NEXT-N)
Inventor: **JARDIN C ; JARDIN C A**
Patent Family (3 patents, 99 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update	
US 20030093566	A1	20030515	US 200139465	A	20011109	200357	B
WO 2003042833	A1	20030522	WO 2002US33806	A	20021021	200357	E
AU 2002335120	A1	20030526	AU 2002335120	A	20021021	200464	E

Priority Applications (no., kind, date): US 200139465 A 20011109

Patent Details

Number	Kind	Lan	Pg	Dwg	Filing Notes
US 20030093566	A1	EN	11	5	
WO 2003042833	A1	EN			

National Designated States,Original: AE AG AL AM AT AU AZ BA BB BG BR BY
BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID
IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ
NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC
VN YU ZA ZM ZW
Regional Designated States,Original: AT BE BG CH CY CZ DE DK EA EE ES FI
FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG
ZM ZW
AU 2002335120 A1 EN Based on OPI patent WO 2003042833

Alerting Abstract US A1
NOVELTY - The method involves determining whether there is a **database** transaction in a network packet. The packet is cut off if the result is positive and then its kind is also determined. A **database** acceleration technique is selectively put into practice based on above determination.
Another network packet is formed with one of its source and destination address being selectively masked based on nature of the transaction.
DESCRIPTION - An INDEPENDENT CLAIM is also included for system for improving network **database** performance.
USE - Used for network-based **database** acceleration.
ADVANTAGE - The method improves the **database** acceleration and

increased
database performance that is transparent to **database** applications. The
method is thus compatible with various **database** application software as
well as existing general-purpose and server hardware.
DESCRIPTION OF DRAWINGS - The drawing shows a flow chart representation
of a method for accelerating **database** transactions associated with
packets intercepted from a client machine.

Title Terms/Index Terms/Additional Words: **DATABASE** ; TRANSACTION; ACCELERATE; METHOD; DETERMINE; KIND; ONE; NETWORK; PACKET; APPLY; TECHNIQUE; FORM

Class Codes
International Classification (Main): G06F-012/00, G06F-015/16
(Additional/Secondary): G06F-015/04

File Segment: EPI;
DWPI Class: T01; W01
Manual Codes (EPI/S-X): T01-J05B3; T01-J05B4P; T01-N02A1; W01-A03B; W01-A06E; W01-A06G2

Database **transactions accelerating method, involves determination of** database **transaction and its kind in one network packet and application of**
database **acceleration technique to form another network packet**

Original Titles:
SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT **DATABASE** ACCELERATION...

...System and method for network and application transparent **database** acceleration...

...SYSTEM AND METHOD FOR NETWORK AND APPLICATION TRANSPARENT **DATABASE** ACCELERATION...
Inventor: **JARDIN C** ...

... **JARDIN C A**

Alerting Abstract ...NOVELTY - The method involves determining whether
there is a **database** transaction in a network packet. The packet is cut
off if the result is positive and then its kind is also determined. A **database** acceleration technique is selectively put into practice based on
above determination. Another network packet is...
DESCRIPTION - An INDEPENDENT CLAIM is also included for system for improving network **database** performance...

...USE - Used for network-based **database** acceleration...

...ADVANTAGE - The method improves the **database** acceleration and increased **database** performance that is transparent to **database**

applications. The method is thus compatible with various **database** application software as well as existing general-purpose and server hardware...

...DESCRIPTION OF DRAWINGS - The drawing shows a flow chart representation
of a method for accelerating **database** transactions associated with packets intercepted from a client machine.

Title Terms/Index Terms/Additional Words: **DATABASE** ;

Original Publication Data by Authority

Inventor name & address:
JARDIN C ...
... **Jardin, Cary A** ...

... **JARDIN, Cary**
Original Abstracts:
A method and system for accomplishing transparent network **database** acceleration. The architecture determines from the nature of a packet on a
network the whether the packet is a **database** transaction. If the packet
is a **database** transaction, it is suitably intercepted for further analysis. **Database** acceleration techniques are then suitably implemented
based on the type of **database** transaction. A new packet is then created
such that it appears to the devices on...

...A method of improving network **database** performance is disclosed (Fig.
1). The method comprises steps of determining whether a first network packet involves a **database** transaction (14) and then intercepting the packet upon a positive determination. The packet is then examined to determine the nature of the **database** transaction (18). Depending on the
nature of the **database** transaction, a **database** acceleration technique
is selectively implemented (22...
Claims:
What is claimed is: b 1 /b . A method of improving network **database**
performance comprising the steps of: a) determining whether a first network packet involves a **database** transaction; b) intercepting the first
network packet upon a positive determination in step a); c) determining the
nature of the **database** transaction; d) selectively implementing a **database** acceleration technique based upon the determination in step c);
e) creating a second network packet...

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20040181523 (A) System and method for generating and processing results data in a

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Publication	Abs	Title	
20060195437	(A)	Materialized query table matching with query expansion	28-
20060184499	(A)	Data search system and method	11-
20060179049	(A)	System for querying markup language data stored in a relational database according to markup language schema	23-
20060161522	(A)	Context insensitive model entity searching	14-
20060161521	(A)	Abstract records	14-
20060161515	(A)	Apparatus and method for SQL distinct optimization in a computer database system	14-
20060155747	(A)	Apparatus and method for automating the logging of table changes in a database	13-
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20060143167	(A)	System and method for providing access to data with user defined table functions	28-
20060136469	(A)	Creating a logical table from multiple differently formatted physical tables having different access methods	17-
20060136407	(A)	Transformation of a physical query into an abstract query	17-
20060136382	(A)	Well organized query result sets	17-
20060129609	(A)	Database synchronization using change log	30-
20060122993	(A)	Abstract query plan	6-I
20060106766	(A)	Method, system and program product for rewriting structured query language (SQL) statements	12-
20060106763	(A)	Method and apparatus for facilitating a database query using a query criteria template	12-
20060101041	(A)	Providing a consistent hierarchical abstraction of relational data	21-
20060100992	(A)	Apparatus and method for data ordering for derived columns in a database system	21-
20060095440	(A)	Method and process of query optimization to a given environment via specific abstraction layer domain knowledge	29-
20060095405	(A)	Mirroring database statistics	29-

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Publication	Abs	Title	
20060089946	(A)	System and method for managing information for a plurality of computer systems in a distributed network	7-I
20060085464	(A)	Method and system for providing referential integrity constraints	14·
20060074977	(A)	Deferred incorporation of updates for spatial indexes	24·
20060064429	(A)	Method and apparatus for providing assets reports categorized by attribute	18·
20060064428	(A)	Methods and apparatus for mapping a hierarchical data structure to a flat data structure for use in generating a report	17·
20060064407	(A)	Apparatus and method for optimizing a union database query	23·
20060053141	(A)	Content transfer	18
20060036661	(A)	Database information processing system	15·
20060036594	(A)	Method and system for composing a query for a database and traversing the database	7·
20060031189	(A)	Method and system for data mining for automatic query optimization	5·,
20060026189	(A)	Method and system for reconstruction of object model data in a relational database	29
20060026138	(A)	Real-time indexes	10·
20060015490	(A)	Secondary index and indexed view maintenance for updates to complex types	14
20060004851	(A)	OBJECT PROCESS GRAPH RELATIONAL DATABASE INTERFACE	20·
20060004696	(A)	Apparatus and method for dropping tautological predicates from SQL queries for reusability	3·.
20050289174	(A)	Method and system for implementing and accessing a virtual table on data from a central server	28·
20050278290	(A)	Systems, methods, and computer program products that automatically discover metadata objects and generate multidimensional models	14·
20050262158	(A)	System and method for externally providing database optimizer statistics	21·
20050262048	(A)	Dynamic database access via standard query language and abstraction technology	5-I
20050262046	(A)	Method and system for query directives and access plan hints	5-I

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20050097123	A	Research data repository system and met	
20050091210	A	Method for integrating and accessing of heterogeneous data sources	
20050091198	A	Context sensitive term expansion with dy term expansion	
20050091197	A	Context-sensitive term expansion with m levels of expansion	
20050086256	A	Data structure and management system superset of relational databases	

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1 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**

Publisher: IBM Press

Full text available: pdf(4.21 MB) Additional Information: full citation, abstract, references, index terms

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

2 Link and channel measurement: A simple mechanism for capturing and replaying wireless channels

Glenn Judd, Peter Steenkiste

August 2005 **Proceeding of the 2005 ACM SIGCOMM workshop on Experimental approaches to wireless network design and analysis E-WIND '05**

Publisher: ACM Press

Full text available: pdf(6.06 MB) Additional Information: full citation, abstract, references, index terms

Physical layer wireless network emulation has the potential to be a powerful experimental tool. An important challenge in physical emulation, and traditional simulation, is to accurately model the wireless channel. In this paper we examine the possibility of using on-card signal strength measurements to capture wireless channel traces. A key advantage of this approach is the simplicity and ubiquity with which these measurements can be obtained since virtually all wireless devices provide the req ...

Keywords: channel capture, emulation, wireless

3 GPGPU: general purpose computation on graphics hardware

David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**

Publisher: ACM Press
Full text available: pdf(63.03 MB) Additional Information: full citation, abstract

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

4 Collision detection and proximity queries

Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(11.22 MB) Additional Information: full citation, abstract

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

5 Human-computer interface development: concepts and systems for its management

H. Rex Hartson, Deborah Hix
March 1989 **ACM Computing Surveys (CSUR)**, Volume 21 Issue 1
Publisher: ACM Press
Full text available: pdf(7.97 MB) Additional Information: full citation, abstract, references, citings, index terms, review

Human-computer interface management, from a computer science viewpoint, focuses on the process of developing quality human-computer interfaces, including their representation, design, implementation, execution, evaluation, and maintenance. This survey presents important concepts of interface management: dialogue independence, structural modeling, representation, interactive tools, rapid prototyping, development methodologies, and control structures. *Dialogue independence* is th ...

6 Level set and PDE methods for computer graphics

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(17.07 MB) Additional Information: full citation, abstract, citings

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

7 The elements of nature: interactive and realistic techniques

Oliver Deusen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**

Publisher: ACM Press
Full text available: pdf(17.65 MB) Additional Information: full citation, abstract

This updated course on simulating natural phenomena will cover the latest research and production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

8 Industrial sessions: beyond relational tables: Garlic: a new flavor of federated query processing for DB2

Vanja Josifovski, Peter Schwarz, Laura Haas, Eileen Lin
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**
Publisher: ACM Press
Full text available: pdf(1.05 MB) Additional Information: full citation, abstract, references, citings, index terms

In a large modern enterprise, information is almost inevitably distributed among several database management systems. Despite considerable attention from the research community, relatively few commercial systems have attempted to address this issue. This paper describes new technology that enables clients of IBM's DB2 Universal Database to access the data and specialized computational capabilities of a wide range of non-relational data sources. This technology, based on the Garlic prototype deve ...

9 Parallelism in relational data base systems: architectural issues and design approaches

Hamid Pirahesh, C. Mohan, Josephine Cheng,'T. S. Liu, Pat Selinger
July 1990 **Proceedings of the second international symposium on Databases in parallel and distributed systems**
Publisher: ACM Press
Full text available: pdf(2.50 MB) Additional Information: full citation, abstract, references, citings, index terms

With current systems, some important complex queries may take days to complete because of: (1) the volume of data to be processed, (2) limited aggregate resources. Introducing parallelism addresses the first problem. Cheaper, but powerful computing resources solve the second problem. According to a survey by Brodie,1 only 10% of computerized data is in data bases. This is an argument for both more variety and volume of data to be moved into data base systems. We conject ...

10 A Survey of Some Theoretical Aspects of Multiprocessing

J. L. Baer
March 1973 **ACM Computing Surveys (CSUR)**, Volume 5 Issue 1
Publisher: ACM Press
Full text available: pdf(4.05 MB) Additional Information: full citation, references, citings, index terms

11 Speeding up construction of PMR quadtree-based spatial indexes

Gisli R. Hjaltason, Hanan Samet
October 2002 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 11 Issue 2
Publisher: Springer-Verlag New York, Inc.
Full text available: pdf(355.72 KB) Additional Information: full citation, abstract, citings, index terms

Spatial indexes, such as those based on the quadtree, are important in spatial databases for efficient execution of queries involving spatial constraints, especially when the queries involve spatial joins. In this paper we present a number of techniques for speeding up the construction of quadtree-based spatial indexes, specifically the PMR quadtree, which can index arbitrary spatial data. We assume a quadtree implementation using the "linear quadtree", a disk-resident representation ...

Keywords: Bulk-loading, I/O, Spatial indexing

12 Pen computing: a technology overview and a vision

André Meyer

July 1995 **ACM SIGCHI Bulletin**, Volume 27 Issue 3

Publisher: ACM Press

Full text available: pdf(5.14 MB) Additional Information: full citation, abstract, citings, index terms

This work gives an overview of a new technology that is attracting growing interest in public as well as in the computer industry itself. The visible difference from other technologies is in the use of a pen or pencil as the primary means of interaction between a user and a machine, picking up the familiar pen and paper interface metaphor. From this follows a set of consequences that will be analyzed and put into context with other emerging technologies and visions.Starting with a short historic ...

13 Abstraction-based intrusion detection in distributed environments

Peng Ning, Sushil Jajodia, Xiaoyang Sean Wang

November 2001 **ACM Transactions on Information and System Security (TISSEC)**, Volume 4 Issue 4

Publisher: ACM Press

Full text available: pdf(590.61 KB) Additional Information: full citation, abstract, references, citings, index terms, review

Abstraction is an important issue in intrusion detection, since it not only hides the difference between heterogeneous systems, but also allows generic intrusion-detection models. However, abstraction is an error-prone process and is not well supported in current intrusion-detection systems (IDSs). This article presents a hierarchical model to support attack specification and event abstraction in distributed intrusion detection. The model involves three concepts: *system view*, *signature ...*

***Keywords**: Cooperative information systems, heterogeneous systems, intrusion detection, misuse detection*

14 Real-time shading

Marc Olano, Kurt Akeley, John C. Hart, Wolfgang Heidrich, Michael McCool, Jason L. Mitchell, Randi Rost

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: pdf(7.39 MB) Additional Information: full citation, abstract

Real-time procedural shading was once seen as a distant dream. When the first version of this course was offered four years ago, real-time shading was possible, but only with one-of-a-kind hardware or by combining the effects of tens to hundreds of rendering passes. Today, almost every new computer comes with graphics hardware capable of interactively executing shaders of thousands to tens of thousands of instructions. This course has been redesigned to address today's real-time shading capabili ...

15 A robust protocol for parallel join operation in distributed data bases

S. Bandyopadhyay, A. Sengupta

January 2000 **Proceedings of the first international symposium on Databases in parallel and distributed systems**

Publisher: IEEE Computer Society Press

Full text available: pdf(1.23 MB) Additional Information: full citation, abstract, references, citings, index terms

Fault tolerant distributed databases use replicated data(e.g., record or relation) to handle failures of one or more nodes in a computer network. Efficient and economic access strategies for such data bases have not been investigated. In this paper, the binary hypercube, a popular model for fault tolerant interconnection networks, has been studied. It has been shown that, for a local area network based on a binary hypercube, having 2r nodes where every data is replicate ...

16 Technical reports

SIGACT News Staff

January 1980 **ACM SIGACT News**, Volume 12 Issue 1

Publisher: ACM Press

Full text available: pdf(5.28 MB) Additional Information: full citation

17 Real-time volume graphics

Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: pdf(7.63 MB) Additional Information: full citation, abstract

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques for real-time rendering of atmospheric phenomena and participating media such as fire, smoke, and clouds is growing rapidly. This course covers both applications in scientific visualization, e.g., medical volume data, and real-time rendering, ...

18 Scaling up the semantic web: On labeling schemes for the semantic web

Vassilis Christophides, Dimitris Plexousakis, Michel Scholl, Sotirios Tourtounis

May 2003 **Proceedings of the 12th international conference on World Wide Web**

Publisher: ACM Press

Full text available: pdf(294.32 KB) Additional Information: full citation, abstract, references, citings, index terms

This paper focuses on the optimization of the navigation through voluminous subsumption hierarchies of topics employed by Portal Catalogs like Netscape Open Directory (ODP). We advocate for the use of labeling schemes for modeling these hierarchies in order to efficiently answer queries such as subsumption check, descendants, ancestors or nearest common ancestor, which usually require costly transitive closure computations. We first give a qualitative comparison of three main families of schemes ...

19 Extensions to Starburst: objects, types, functions, and rules

Guy M. Lohman, Bruce Lindsay, Hamid Pirahesh, K. Bernhard Schiefer

October 1991 **Communications of the ACM**, Volume 34 Issue 10

Publisher: ACM Press

Full text available: pdf(5.21 MB) Additional Information: full citation, references, citings, index terms

Keywords: Extended relational database management systems, Starburst, extensible database management systems

20 Interactive Editing Systems: Part II

Norman Meyrowitz, Andries van Dam
September 1982 **ACM Computing Surveys (CSUR)**, Volume 14 Issue 3
Publisher: ACM Press
Full text available: pdf(9.17 MB) Additional Information: full citation, references, citings, index terms

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1 Research sessions: query processing I: A scalable hash ripple join algorithm
Gang Luo, Curt J. Ellmann, Peter J. Haas, Jeffrey F. Naughton
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**
Publisher: ACM Press
Full text available: pdf(1.12 MB) Additional Information: full citation, abstract, references, citings, index terms

Recently, Haas and Hellerstein proposed the hash ripple join algorithm in the context of online aggregation. Although the algorithm rapidly gives a good estimate for many join-aggregate problem instances, the convergence can be slow if the number of tuples that satisfy the join predicate is small or if there are many groups in the output. Furthermore, if memory overflows (for example, because the user allows the algorithm to run to completion for an exact answer), the algorithm degenerates to bl ...

2 Improving lookup latency in distributed hash table systems using random sampling
Hui Zhang, Ashish Goel, Ramesh Govindan
October 2005 **IEEE/ACM Transactions on Networking (TON)**, Volume 13 Issue 5
Publisher: IEEE Press
Full text available: pdf(511.97 KB) Additional Information: full citation, abstract, references, index terms

Distributed hash table (DHT) systems are an important class of peer-to-peer routing infrastructures. They enable scalable wide-area storage and retrieval of information, and will support the rapid development of a wide variety of Internet-scale applications ranging from naming systems and file systems to application-layer multicast. DHT systems essentially build an overlay network, but a path on the overlay between any two nodes can be significantly different from the unicast path between those ...

Keywords: distributed hash table (DHT), internet topology, latency expansion, latency stretch, peer-to-peer, random sampling, randomized algorithm

3 Low traffic overlay networks with large routing tables
Chunqiang Tang, Melissa J. Buco, Rong N. Chang, Sandhya Dwarkadas, Laura Z. Luan, Edward So, Christopher Ward
June 2005 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 2005 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '05**, Volume 33 Issue 1

Publisher: ACM Press
Full text available: pdf(269.80 KB) Additional Information: full citation, abstract, references, index terms

The routing tables of Distributed Hash Tables (DHTs) can vary from size $O(1)$ to $O(n)$. Currently, what is lacking is an analytic framework to suggest the optimal routing table size for a given workload. This paper (1) compares DHTs with $O(1)$ to $O(n)$ routing tables and identifies some good design points; and (2) proposes protocols to realize the potential of those good design points.We use total traffic as the uniform metric to compare heterogeneous DHTs a ...

Keywords: distributed hash table, overlay network, peer-to-peer system

4 Avoiding Cartesian products for multiple joins
Shinichi Morishita
January 1997 **Journal of the ACM (JACM)**, Volume 44 Issue 1
Publisher: ACM Press
Full text available: pdf(583.81 KB) Additional Information: full citation, abstract, references, index terms, review

Computing the natural join of a set of relations is an important operation in relational database systems. The ordering of joins determines to a large extent the computation time of the join. Since the number of possible orderings could be very large, query optimizers first reduce the search space by using various heuristics and then try to select an optimal ordering of joins. Avoiding Cartesian products is a common heuristic for reducing the search space, but it cannot guarantee optimal or ...

Keywords: Cartesian product, database scheme, join expression tree, join strategy, optimality, semijoin

5 Incrementally improving lookup latency in distributed hash table systems
Hui Zhang, Ashish Goel, Ramesh Govindan
June 2003 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 2003 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '03**, Volume 31 Issue 1
Publisher: ACM Press
Full text available: pdf(401.28 KB) Additional Information: full citation, abstract, references, citings, index terms

Distributed hash table (DHT) systems are an important class of peer-to-peer routing infrastructures. They enable scalable wide-area storage and retrieval of information, and will support the rapid development of a wide variety of Internet-scale applications ranging from naming systems and file systems to application-layer multicast. DHT systems essentially build an overlay network, but a path on the overlay between any two nodes can be significantly different from the unicast path between those ...

Keywords: DHT, latency stretch, peer-to-peer, random sampling

6 Research sessions: spatial data: Joining interval data in relational databases
Jost Enderle, Matthias Hampel, Thomas Seidl
June 2004 **Proceedings of the 2004 ACM SIGMOD international conference on Management of data**
Publisher: ACM Press
Full text available: pdf(552.80 KB) Additional Information: full citation, abstract, references

The increasing use of temporal and spatial data in present-day relational systems

necessitates an efficient support of joins on interval-valued attributes. Standard join algorithms do not support those data types adequately, whereas special approaches for interval joins usually require an augmentation of the internal access methods which is not supported by existing relational systems. To overcome these problems we introduce new join algorithms for interval data. Based on the Relational Interval ...

7 Efficient processing of spatial joins using R-trees

Thomas Brinkhoff, Hans-Peter Kriegel, Bernhard Seeger

June 1993 **ACM SIGMOD Record , Proceedings of the 1993 ACM SIGMOD international conference on Management of data SIGMOD '93**, Volume 22 Issue 2

Publisher: ACM Press

Full text available: pdf(1.48 MB) Additional Information: full citation, abstract, references, citings, index terms

Spatial joins are one of the most important operations for combining spatial objects of several relations. The efficient processing of a spatial join is extremely important since its execution time is superlinear in the number of spatial objects of the participating relations, and this number of objects may be very high. In this paper, we present a first detailed study of spatial join processing using R-trees, particularly R*-trees. R-trees are very suitable for supporting spatial queries a ...

8 Failure recovery for structured P2P networks: protocol design and performance evaluation

Simon S. Lam, Huaiyu Liu

June 2004 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the joint international conference on Measurement and modeling of computer systems SIGMETRICS '04/Performance '04**, Volume 32 Issue 1

Publisher: ACM Press

Full text available: pdf(481.82 KB) Additional Information: full citation, abstract, references, index terms

Measurement studies indicate a high rate of node dynamics in p2p systems. In this paper, we address the question of how high a rate of node dynamics can be supported by *structured* p2p networks. We confine our study to the hypercube routing scheme used by several structured p2p systems. To improve system robustness and facilitate failure recovery, we introduce the property of K-*consistency*, $K \geqslant 1$, which generalizes consistency defined previously. (Consistency guarantees ...

Keywords: failure recovery, hypercube routing, k-consistency, peer-to-peer networks, sustainable churn rate

9 Research session: query optimization and summarization: REED: robust, efficient filtering and event detection in sensor networks

Daniel J. Abadi, Samuel Madden, Wolfgang Lindner

August 2005 **Proceedings of the 31st international conference on Very large data bases VLDB '05**

Publisher: VLDB Endowment

Full text available: pdf(286.61 KB) Additional Information: full citation, abstract, references, index terms

This paper presents a set of algorithms for efficiently evaluating join queries over static data tables in sensor networks. We describe and evaluate three algorithms that take advantage of distributed join techniques. Our algorithms are capable of running in limited amounts of RAM, can distribute the storage burden over groups of nodes, and are tolerant to dropped packets and node failures. REED is thus suitable for a wide range of event-detection applications that traditional sensor network dat ...

10 Wireless ad hoc multicast routing with mobility prediction

Sung-Ju Lee, William Su, Mario Gerla
August 2001 **Mobile Networks and Applications**, Volume 6 Issue 4
Publisher: Kluwer Academic Publishers
Full text available: pdf(186.00 KB) Additional Information: full citation, abstract, references, citings, index terms

An ad hoc wireless network is an infrastructureless network composed of mobile hosts. The primary concerns in ad hoc networks are bandwidth limitations and unpredictable topology changes. Thus, efficient utilization of routing packets and immediate recovery of route breaks are critical in routing and multicasting protocols. A multicast scheme, On-Demand Multicast Routing Protocol (ODMRP), has been recently proposed for mobile ad hoc networks. ODMRP is a reactive (on-demand) protocol that de ...

Keywords: ad hoc networks, mobile computing, mobility prediction, multicast and routing protocols

11 Mobility prediction and routing in *ad hoc* wireless networks
William Su, Sung-Ju Lee, Mario Gerla
January 2001 **International Journal of Network Management**, Volume 11 Issue 1
Publisher: John Wiley & Sons, Inc.
Full text available: pdf(405.80 KB) Additional Information: full citation, abstract, references, citings, index terms

By exploiting non-random behaviors for the mobility patterns that mobile users exhibit, we can predict the future state of network topology and perform route reconstruction proactively in a timely manner. Moreover, by using the predicted information on the network topology, we can eliminate transmissions of control packets otherwise needed to reconstruct the route and thus reduce overhead. In this paper, we propose various schemes to improve routing protocol performances by using mobility p ...

12 On parallel execution of multiple pipelined hash joins
Hui-I Hsiao, Ming-Syan Chen, Philip S. Yu
May 1994 **ACM SIGMOD Record , Proceedings of the 1994 ACM SIGMOD international conference on Management of data SIGMOD '94**, Volume 23 Issue 2
Publisher: ACM Press
Full text available: pdf(1.24 MB) Additional Information: full citation, abstract, references, citings, index terms

In this paper we study parallel execution of multiple pipelined hash joins. Specifically, we deal with two issues, processor allocation and the use of hash filters, to improve parallel execution of hash joins. We first present a scheme to transform a bushy execution tree to an allocation tree, where each node denotes a pipeline. Then, processors are allocated to the nodes in the allocation tree based on the concept of synchronous execution time such that inner relations (i.e., hash tables) ...

13 Ad hoc multicast routing algorithm with swarm intelligence
Chien-Chung Shen, Chaiporn Jaikaeo
February 2005 **Mobile Networks and Applications**, Volume 10 Issue 1-2
Publisher: Kluwer Academic Publishers
Full text available: pdf(424.44 KB) Additional Information: full citation, abstract, references, index terms

Swarm intelligence refers to complex behaviors that arise from very simple individual behaviors and interactions, which is often observed in nature, especially among social insects such as ants. Although each individual (an ant) has little intelligence and simply follows basic rules using local information obtained from the environment, such as ant's pheromone trail laying and following behavior, globally optimized behaviors, such as

finding a shortest path, emerge when they work collectively as ...

Keywords: ad hoc networks, multicast routing, swarm intelligence

14 On zone-balancing of peer-to-peer networks: analysis of random node join

Xiaoming Wang, Yueping Zhang, Xiafeng Li, Dmitri Loguinov

June 2004 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the joint international conference on Measurement and modeling of computer systems SIGMETRICS '04/Performance '04**, Volume 32 Issue 1

Publisher: ACM Press

Full text available: pdf(282.76 KB) Additional Information: full citation, abstract, references, citings, index terms

Balancing peer-to-peer graphs, including zone-size distributions, has recently become an important topic of peer-to-peer (P2P) research [1], [2], [6], [19], [31], [36]. To bring analytical understanding into the various peer-join mechanisms, we study how zone-balancing decisions made during the initial sampling of the peer space affect the resulting zone sizes and derive several asymptotic results for the maximum and minimum zone sizes that hold with high probability.

Keywords: balls-into-bins, load-balancing, modeling, peer-to-peer

15 Chord: A scalable peer-to-peer lookup service for internet applications

Ion Stoica, Robert Morris, David Karger, M. Frans Kaashoek, Hari Balakrishnan

August 2001 **ACM SIGCOMM Computer Communication Review , Proceedings of the 2001 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '01**, Volume 31 Issue 4

Publisher: ACM Press

Full text available: pdf(205.73 KB) Additional Information: full citation, abstract, references, citings, index terms

A fundamental problem that confronts peer-to-peer applications is to efficiently locate the node that stores a particular data item. This paper presents *Chord*, a distributed lookup protocol that addresses this problem. Chord provides support for just one operation: given a key, it maps the key onto a node. Data location can be easily implemented on top of Chord by associating a key with each data item, and storing the key/data item pair at the node to which the key maps. Chord adapts effi ...

16 Reusing invariants: a new strategy for correlated queries

Jun Rao, Kenneth A. Ross

June 1998 **ACM SIGMOD Record , Proceedings of the 1998 ACM SIGMOD international conference on Management of data SIGMOD '98**, Volume 27 Issue 2

Publisher: ACM Press

Full text available: pdf(1.55 MB) Additional Information: full citation, abstract, references, citings, index terms

Correlated queries are very common and important in decision support systems. Traditional nested iteration evaluation methods for such queries can be very time consuming. When they apply, query rewriting techniques have been shown to be much more efficient. But query rewriting is not always possible. When query rewriting does not apply, can we do something better than the traditional nested iteration methods? In this paper, we propose a new invariant technique to evaluate correlated queries ...

17 Chord: a scalable peer-to-peer lookup protocol for internet applications

Ion Stoica, Robert Morris, David Liben-Nowell, David R. Karger, M. Frans Kaashoek, Frank

Dabek, Hari Balakrishnan
February 2003 **IEEE/ACM Transactions on Networking (TON)**, Volume 11 Issue 1
Publisher: IEEE Press

Full text available: pdf(690.54 KB) Additional Information: full citation, abstract, references, citings, index terms

A fundamental problem that confronts peer-to-peer applications is the efficient location of the node that stores a desired data item. This paper presents *Chord*, a distributed lookup protocol that addresses this problem. Chord provides support for just one operation: given a key, it maps the key onto a node. Data location can be easily implemented on top of Chord by associating a key with each data item, and storing the key/data pair at the node to which the key maps. Chord adapts efficien ...

Keywords: distributed scalable algorithms, lookup protocols, peer-to-peer networks

18 Storing and querying XML data using denormalized relational databases
Andrey Balmin, Yannis Papakonstantinou
March 2005 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 14 Issue 1
Publisher: Springer-Verlag New York, Inc.
Full text available: pdf(397.97 KB) Additional Information: full citation, abstract

XML database systems emerge as a result of the acceptance of the XML data model. Recent works have followed the promising approach of building XML database management systems on underlying RDBMS's. Achieving query processing performance reduces to two questions: (i) How should the XML data be decomposed into data that are stored in the RDBMS? (ii) How should the XML query be translated into an efficient plan that sends one or more SQL queries to the underlying RDBMS and combines the data ...

19 Industrial sessions: big data: Automating physical database design in a parallel database
Jun Rao, Chun Zhang, Nimrod Megiddo, Guy Lohman
June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**
Publisher: ACM Press
Full text available: pdf(1.38 MB) Additional Information: full citation, abstract, references, citings, index terms

Physical database design is important for query performance in a shared-nothing parallel database system, in which data is horizontally partitioned among multiple independent nodes. We seek to automate the process of data partitioning. Given a workload of SQL statements, we seek to determine automatically how to partition the base data across multiple nodes to achieve overall optimal (or close to optimal) performance for that workload. Previous attempts use heuristic rules to make those decision ...

20 R2-E: cross layer designs and protocols symposium: A distributed P2P network based on increasing reliability and scalability for internet applications
Ben-Jye Chang, Chao-Shu Chen, Ying-Hsin Liang, Hong-Da Lin
July 2006 **Proceeding of the 2006 international conference on Communications and mobile computing IWCMC '06**
Publisher: ACM Press
Full text available: pdf(2.12 MB) Additional Information: full citation, abstract, references, index terms

In this paper, we propose an efficient, distributed, reliable P2P networks for this purpose, which is called hand-in-hand (HIH) P2P network. First, HIH adopts distributed index servers with unique individual ID as logical ring nodes for storing and managing the file sharing information. Second, HIH adopts a consistent hashing to hash the sharing

filename as a seed and maps the seed to a corresponding index server. The consistent hashing achieves some advantages including, scalable, providing a f ...

Keywords: distributed P2P networks, file sharing client/server, index client/server, reliable, resource sharing, scalable

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1 Fast detection of communication patterns in distributed executions

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**

Publisher: IBM Press

Full text available: pdf(4.21 MB) Additional Information: full citation, abstract, references, index terms

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

2 From VHDL to efficient and first-time-right designs: a formal approach

Peter F. A. Middelhoek, Sreeranga P. Rajan

April 1996 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**, Volume 1 Issue 2

Publisher: ACM Press

Full text available: pdf(722.99 KB) Additional Information: full citation, abstract, references, citings, index terms

In this article we provide a practical transformational approach to the synthesis of correct synchronous digital hardware designs from high-level specifications. We do this while taking into account the complete life cycle of a design from early prototype to full custom implementation. Besides time-to-market, both flexibility with respect to target architecture and efficiency issues are addressed by the methodology. The utilization of user-selected behavior-preserving transformation steps e ...

Keywords: CDFG, SFG, VHDL, correctness by construction, design methodology, rapid system prototyping, transformational design

3 GPGPU: general purpose computation on graphics hardware

David Luebke, Mark Harris, Jens Krüger, Tim Purcell, Naga Govindaraju, Ian Buck, Cliff Woolley, Aaron Lefohn

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**

Publisher: ACM Press
Full text available: pdf(63.03 MB) Additional Information: full citation, abstract

The graphics processor (GPU) on today's commodity video cards has evolved into an extremely powerful and flexible processor. The latest graphics architectures provide tremendous memory bandwidth and computational horsepower, with fully programmable vertex and pixel processing units that support vector operations up to full IEEE floating point precision. High level languages have emerged for graphics hardware, making this computational power accessible. Architecturally, GPUs are highly parallel s ...

4 Link and channel measurement: A simple mechanism for capturing and replaying wireless channels
Glenn Judd, Peter Steenkiste
August 2005 **Proceeding of the 2005 ACM SIGCOMM workshop on Experimental approaches to wireless network design and analysis E-WIND '05**
Publisher: ACM Press
Full text available: pdf(6.06 MB) Additional Information: full citation, abstract, references, index terms

Physical layer wireless network emulation has the potential to be a powerful experimental tool. An important challenge in physical emulation, and traditional simulation, is to accurately model the wireless channel. In this paper we examine the possibility of using on-card signal strength measurements to capture wireless channel traces. A key advantage of this approach is the simplicity and ubiquity with which these measurements can be obtained since virtually all wireless devices provide the req ...

Keywords: channel capture, emulation, wireless

5 W1-A: medium access control #1: MAPT: network address and port translation approach to IP multicast and its application to public wireless LANs
Ryo Kitahara, Hidetoshi Ueno, Hideharu Suzuki, Norihiro Ishikawa, Takaaki Komura, Kenji Fujikawa, Haruo Takagi
July 2006 **Proceeding of the 2006 international conference on Communications and mobile computing IWCMC '06**
Publisher: ACM Press
Full text available: pdf(412.31 KB) Additional Information: full citation, abstract, references, index terms

IP Multicast has attracted a lot of attention as a cost-effective data delivery technique for music and video broadcasting services. Unfortunately, because most Internet Service Providers don't support IP multicast routing, end-to-end IP multicast is not well supported by the Internet. Therefore we propose a multicast routing method called MAPT (Multicast Address and a port Translation) which uses an address translation technique that converts IP addresses and UDP port numbers. We also propose a ...

Keywords: NAPT, SIP, multicast routing, public wireless LAN

6 Abstraction-based intrusion detection in distributed environments
Peng Ning, Sushil Jajodia, Xiaoyang Sean Wang
November 2001 **ACM Transactions on Information and System Security (TISSEC)**, Volume 4 Issue 4
Publisher: ACM Press
Full text available: pdf(590.61 KB) Additional Information: full citation, abstract, references, citings, index terms, review

Abstraction is an important issue in intrusion detection, since it not only hides the difference between heterogeneous systems, but also allows generic intrusion-detection models. However, abstraction is an error-prone process and is not well supported in

current intrusion-detection systems (IDSs). This article presents a hierarchical model to support attack specification and event abstraction in distributed intrusion detection. The model involves three concepts: *system view*, *signature* ...

***Keywords**: Cooperative information systems, heterogeneous systems, intrusion detection, misuse detection*

7 Phoenix: a parallel programming model for accommodating dynamically joining/leaving resources

Kenjiro Taura, Kenji Kaneda, Toshio Endo, Akinori Yonezawa

June 2003 **ACM SIGPLAN Notices , Proceedings of the ninth ACM SIGPLAN symposium on Principles and practice of parallel programming PPoPP '03**, Volume 38 Issue 10

Publisher: ACM Press

Full text available: pdf(197.86 KB) Additional Information: full citation, abstract, references, index terms

This paper proposes Phoenix, a programming model for writing parallel and distributed applications that accommodate dynamically joining/leaving compute resources. In the proposed model, nodes involved in an application see a large and fixed *virtual node name space*. They communicate via messages, whose destinations are specified by virtual node names, rather than names bound to a physical resource. We describe Phoenix API and show how it allows a transparent migration of application states ...

Keywords: distributed programming, message passing, migration, parallel programming, resource reconfiguration

8 Level set and PDE methods for computer graphics

David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**

Publisher: ACM Press

Full text available: pdf(17.07 MB) Additional Information: full citation, abstract, citings

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...

9 Building a scaleable geo-spatial DBMS: technology, implementation, and evaluation

Jignesh Patel, JieBing Yu, Navin Kabra, Kristin Tufte, Biswadeep Nag, Josef Burger, Nancy Hall, Karthikeyan Ramasamy, Roger Lueder, Curt Ellmann, Jim Kupsch, Shelly Guo, Johan Larson, David De Witt, Jeffrey Naughton

June 1997 **ACM SIGMOD Record , Proceedings of the 1997 ACM SIGMOD international conference on Management of data SIGMOD '97**, Volume 26 Issue 2

Publisher: ACM Press

Full text available: pdf(1.58 MB) Additional Information: full citation, abstract, references, citings, index terms

This paper presents a number of new techniques for parallelizing geo-spatial database systems and discusses their implementation in the Paradise object-relational database system. The effectiveness of these techniques is demonstrated using a variety of complex geo-spatial queries over a 120 GB global geo-spatial data set.

10 Field programmable port extender (FPX) for distributed routing and queuing

John W. Lockwood, Jon S. Turner, David E. Taylor
February 2000 **Proceedings of the 2000 ACM/SIGDA eighth international symposium on Field programmable gate arrays**
Publisher: ACM Press

Full text available: pdf(709.83 KB) Additional Information: full citation, abstract, references, citings, index terms

Field Programmable Gate Arrays (FPGAs) are being used to provide fast Internet Protocol (IP) packet routing and advanced queuing in a highly scalable network switch. A new module, called the Field-programmable Port Extender (FPX), is being built to augment the Washington University Gigabit Switch (WUGS) with reprogrammable logic.FPX modules reside at the edge of the WUGS switching fabric. Physically, the module is inserted between an optical line card and the WUGS gigabit switch ...

11 Parallelism in relational data base systems: architectural issues and design approaches

Hamid Pirahesh, C. Mohan, Josephine Cheng, T. S. Liu, Pat Selinger
July 1990 **Proceedings of the second international symposium on Databases in parallel and distributed systems**
Publisher: ACM Press

Full text available: pdf(2.50 MB) Additional Information: full citation, abstract, references, citings, index terms

With current systems, some important complex queries may take days to complete because of: (1) the volume of data to be processed, (2) limited aggregate resources. Introducing parallelism addresses the first problem. Cheaper, but powerful computing resources solve the second problem. According to a survey by Brodie,1 only 10% of computerized data is in data bases. This is an argument for both more variety and volume of data to be moved into data base systems. We conject ...

12 Distributed last call optimization for portable parallel logic programming

Balkrishna Ramkumar
September 1992 **ACM Letters on Programming Languages and Systems (LOPLAS)**, Volume 1 Issue 3
Publisher: ACM Press

Full text available: pdf(1.21 MB) Additional Information: full citation, abstract, references, index terms, review

A difficult but challenging problem is the efficient exploitation of AND and OR parallelism in logic programs without making any assumptions about the underlying target machine (s). In earlier papers, we described the design of a binding environment for AND and OR parallel execution of logic programs on shared and nonshared memory machines and the performance of a compiler (called ROLOG) using this binding environment on a range of MIMD parallel machines. In this paper, we present ...

Keywords: compiler optimizations, parallel logic programming

13 The elements of nature: interactive and realistic techniques

Oliver Deusen, David S. Ebert, Ron Fedkiw, F. Kenton Musgrave, Przemyslaw Prusinkiewicz, Doug Roble, Jos Stam, Jerry Tessendorf
August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**
Publisher: ACM Press

Full text available: pdf(17.65 MB) Additional Information: full citation, abstract

This updated course on simulating natural phenomena will cover the latest research and

production techniques for simulating most of the elements of nature. The presenters will provide movie production, interactive simulation, and research perspectives on the difficult task of photorealistic modeling, rendering, and animation of natural phenomena. The course offers a nice balance of the latest interactive graphics hardware-based simulation techniques and the latest physics-based simulation techni ...

14 Industrial sessions: beyond relational tables: Garlic: a new flavor of federated query processing for DB2

Vanja Josifovski, Peter Schwarz, Laura Haas, Eileen Lin

June 2002 **Proceedings of the 2002 ACM SIGMOD international conference on Management of data SIGMOD '02**

Publisher: ACM Press

Full text available: pdf(1.05 MB) Additional Information: full citation, abstract, references, citings, index terms

In a large modern enterprise, information is almost inevitably distributed among several database management systems. Despite considerable attention from the research community, relatively few commercial systems have attempted to address this issue. This paper describes new technology that enables clients of IBM's DB2 Universal Database to access the data and specialized computational capabilities of a wide range of non-relational data sources. This technology, based on the Garlic prototype deve ...

15 Parallel execution of prolog programs: a survey

Gopal Gupta, Enrico Pontelli, Khayri A.M. Ali, Mats Carlsson, Manuel V. Hermenegildo

July 2001 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 23 Issue 4

Publisher: ACM Press

Full text available: pdf(1.95 MB) Additional Information: full citation, abstract, references, citings, index terms

Since the early days of logic programming, researchers in the field realized the potential for exploitation of parallelism present in the execution of logic programs. Their high-level nature, the presence of nondeterminism, and their referential transparency, among other characteristics, make logic programs interesting candidates for obtaining speedups through parallel execution. At the same time, the fact that the typical applications of logic programming frequently involve irregular computatio ...

Keywords: Automatic parallelization, constraint programming, logic programming, parallelism, prolog

16 Response Time Analysis of Multiprocessor Computers for Database Support

Roger K. Shultz, Roy J. Zingg

March 1984 **ACM Transactions on Database Systems (TODS)**, Volume 9 Issue 1

Publisher: ACM Press

Full text available: pdf(2.27 MB) Additional Information: full citation, abstract, references, citings, index terms

Comparison of three multiprocessor computer architectures for database support is made possible through evaluation of response time expressions. These expressions are derived by parameterizing algorithms performed by each machine to execute a relational algebra query. Parameters represent properties of the database and components of the machines. Studies of particular parameter values exhibit response times for conventional machine technology, for low selectivity, high duplicate occurrence, ...

17 Collision detection and proximity queries

Sunil Hadap, Dave Eberle, Pascal Volino, Ming C. Lin, Stephane Redon, Christer Ericson

August 2004 **Proceedings of the conference on SIGGRAPH 2004 course notes SIGGRAPH '04**
Publisher: ACM Press
Full text available: pdf(11.22 MB) Additional Information: full citation, abstract

This course will primarily cover widely accepted and proved methodologies in collision detection. In addition more advanced or recent topics such as continuous collision detection, ADFs, and using graphics hardware will be introduced. When appropriate the methods discussed will be tied to familiar applications such as rigid body and cloth simulation, and will be compared. The course is a good overview for those developing applications in physically based modeling, VR, haptics, and robotics.

18 A robust protocol for parallel join operation in distributed data bases
S. Bandyopadhyay, A. Sengupta
January 2000 **Proceedings of the first international symposium on Databases in parallel and distributed systems**
Publisher: IEEE Computer Society Press
Full text available: pdf(1.23 MB) Additional Information: full citation, abstract, references, citings, index terms

Fault tolerant distributed databases use replicated data(e.g., record or relation) to handle failures of one or more nodes in a computer network. Efficient and economic access strategies for such data bases have not been investigated. In this paper, the binary hypercube, a popular model for fault tolerant interconnection networks, has been studied. It has been shown that, for a local area network based on a binary hypercube, having 2r nodes where every data is replicate ...

19 Implementation of a portable software DSM in Java
Yukihiko Sohda, Hidemoto Nakada, Satoshi Matsuoka
June 2001 **Proceedings of the 2001 joint ACM-ISCOPE conference on Java Grande**
Publisher: ACM Press
Full text available: pdf(896.77 KB) Additional Information: full citation, abstract, references, index terms

Rapid commoditization of advanced hardware and progress of networking technology is now making wide area high-performance computing a.k.a. the 'Grid' Computing a reality. Since a Grid will consist of vastly heterogeneous sets of compute nodes, especially commodity clusters, some have articulated the use of Java as a suitable technology to satisfy portability across different machines. Since Java's natural model parallelism is shared memory multithreading, one will have to support distributed ...

20 A scalable content-addressable network
Sylvia Ratnasamy, Paul Francis, Mark Handley, Richard Karp, Scott Schenker
August 2001 **ACM SIGCOMM Computer Communication Review , Proceedings of the 2001 conference on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '01**, Volume 31 Issue 4
Publisher: ACM Press
Full text available: pdf(155.64 KB) Additional Information: full citation, abstract, references, citings, index terms

Hash tables - which map "keys" onto "values" - are an essential building block in modern software systems. We believe a similar functionality would be equally valuable to large distributed systems. In this paper, we introduce the concept of a Content-Addressable Network (CAN) as a distributed infrastructure that provides hash table-like functionality on Internet-like scales. The CAN is scalable, fault-tolerant and completely self-organizing, and we demonstrate its scalability, robustness and low ...

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IEE JNL	IEE Journal or Magazine
IEEE CNF	IEEE Conference Proceeding
IEE CNF	IEE Conference Proceeding
IEEE STD	IEEE Standard

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1. **Aggregate-join query processing in parallel database systems**
Taniar, D.; Jiang, Y.; Liu, K.H.; Leung, C.H.C.;
High Performance Computing in the Asia-Pacific Region, 2000. Proceedings. T International Conference/Exhibition on
Volume 2, 14-17 May 2000 Page(s):824 - 829 vol.2
Digital Object Identifier 10.1109/HPC.2000.843554
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IEEE CNF	IEEE Conference Proceeding
IEE CNF	IEE Conference Proceeding
IEEE STD	IEEE Standard

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Kyungbaek Kim; Daeyeon Park;
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16-18 Dec. 2005 Page(s):8 pp.
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Ferreira, R.A.; Jagannathan, S.; Grama, A.;
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Herbert, D.; Yung-Hsiang Lu; Bagchi, S.; Zhiyuan Li;

Sensor Networks, Ubiquitous, and Trustworthy Computing, 2006. IEEE Interna
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Systems Communications, 2005. Proceedings
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Wepiwe, G.; Simeonov, P.L.;
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Applications and the Internet, 2005. Proceedings. The 2005 Symposium on
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Shen, H.; Xu, C.-Z.; Guihai Chen;
Parallel and Distributed Processing Symposium, 2004. Proceedings. 18th Inte
26-30 April 2004 Page(s):26
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Data Model Dictionary

Domain - A way of **identifying** and grouping the types of data items in the model. **...** You create **join** relationships when you know that the underlying **tables ...**
www.datamodel.org/DataModelDictionary.html - 42k - Cached - Similar pages

Relational Model: Normalization

A relational **table**, by **definition**, is in **first** normal form. **... Identify** any determinants other than the composite key, and the columns they determine. **...**
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Property **table definition**. Property **tables** for a graph (model) must be **...** ing point and should support access to an interesting **subset** of legacy **tables**. **...**
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TOPCAT - Tool for OPerations on Catalogues And **Tables**

In the **first** two **subset definition** methods above, the current **subset** will be **...** the **first table**, somehow **identifying** in the second **table** which row "refers **...**
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Subset of fields in fact **table**; Very close to anticipated queries **...** func **definition**: constituent **first** name; tech **definition**: spriden_first_name ... **...**
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5 Schema Objects

Similarly, you can replicate the **definition** of a temporary **table**, ... materialized views are used to download a **subset** of data from central servers to ...
www.stanford.edu/dept/itss/docs/oracle/10g/server.101/b10743/schema.htm - 167k - Cached - Similar pages

3. The Relational Model.
A **definition** of the relational model has been attempted by CJ Date [2]. ... **JOIN**. Associates entries from two **tables** on the basis of matching column values. ...
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SQL Statements: CREATE TYPE to DROP ROLLBACK SEGMENT, 5 of 26
For a DELETE statement, if the **join** results in more than one key-preserved **table**, then Oracle deletes from the **first table** named in the FROM clause, ...
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